DOCUMENT RESUME

ED 341 852 CE 060 375

AUTHOR	Rowell, Mary Emily
TITLE	DISOSS--Distributed Office Support System. An Electronic Messaging System Training Program for American Express TRS Company Employees.
PUB DATE	31 Jan 90
NOTE	423p.; Master's Thesis, New York Institute of Technology.
PUB TYPE	Dissertations/Theses - Masters Theses (042) -- Guides - General (050)
EDRS PRICE	MF01/PC17 Plus Postage.
DESCRIPTORS	Adult Education; Computer Oriented Programs; Corporate Education; Electronic Equipment; *Electronic Mail; Entry Workers; Information Dissemination; Instructional Development; Job Analysis; *Job Training; Needs Assessment; *Office Occupations Education; Online Systems; Program Development; Program Evaluation; Program Implementation; Skill Analysis; Staff Development; Task Analysis
IDENTIFIERS	*Distributed Office Support System; *Instructional Systems Development

ABSTRACT

An instructional system design model was developed for training new employees of the American Express TRS (Travel Related Services) Company, Inc. on the Distributed Office Support System (DISOSS), an electronic mail system. The project used the Interservice Procedures for Instructional Systems Development, which consists of five phases: analysis, design, development, implementation, and evaluation. Needs analysis revealed that a training need existed. Information was obtained through observation, help desk calls, survey of existing clients, and consultation with subject matter experts. In designing relevant instruction, a task analysis was performed and measurable objectives for DISOSS instruction were identified. The development phase produced an instructional strategy that incorporated all objectives. Transparencies and handouts were produced, and appropriate media were selected. The DISOSS instruction was delivered twice within the implementation phase of the model; 21 participants from the target population received instruction. Formative evaluation consisted of one-on-one and small group trials. The summative evaluation used an entry behaviors test, pretest, posttest, and attitude questionnaires to measure reaction and learning. Learners improved significantly based on pre- and post-test scores. (Appendixes, amounting to almost two-thirds of the thesis, include instruments, task analysis, performance objectives and test items, instructional strategy, instructional materials, evaluation instruments and results, and 20 references.) (YLB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED341852

DISOSS - DISTRIBUTED OFFICE SUPPORT SYSTEM

An Electronic Messaging System Training Program for American Express TRS Company Employees

by

Mary Emily Rowell

B.A. 1981, Montclair State College

A Thesis/Project

submitted to The Faculty of the

School of Media and Arts

of The New York Institute of Technology in partial satisfaction of the requirements for the degree of

Master of Science

January 31, 1990

CE 060375

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☒ This document has been reproduced as received from the person or organization originating it

☐ Minor changes have been made to improve reproduction quality

- Points of view or opinions stated in this document do not necessarily represent official OERI position or policy

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

A Reynolds

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

BEST COPY AVAILABLE

CE

The Faculty of the
School of Media and Arts
of The New York Institute of Technology

accepts the
Thesis/Project

DISOSS - DISTRIBUTED OFFICE SUPPORT SYSTEM:
An Electronic Messaging System Training Program for American Express TRS Company Employees

This project was conducted using the principles and techniques of instructional system design (ISD). The document is a report of the designer's plans and experiences in carrying out the design, development, implementation, and evaluation of the project. A plan, budget, analysis of findings, and recommendations are included.

written by

Mary Rowell

in partial satisfaction
of the requirements for the degree of

Master of Science

Participating Faculty Mentors and Reviewers

Joan Penrose, Ph.D.

Angus Reynolds, Ed.D.

Dr. Angus Reynolds
Associate Dean, Graduate Programs
in Training and Learning Technology
January 15, 1990

© Copyright by Mary Emily Rowell 1990
All rights reserved

ACKNOWLEDGEMENTS

This project is a result of a number of individuals' time, effort, guidance, and support. I would like to acknowledge their contribution to this work.

Dr. Joan Penrose, a member of NYIT's faculty, provided the foundation I needed to apply the concepts of an instructional design model to this program. Her feedback and suggestions helped me to master the essential elements of this process. I will always be grateful for her invaluable assistance and insight.

Dr. David P. Yens, also a member of NYIT's faculty, assisted me through an aggressive implementation and evaluation process when the schedule became extremely tight. His expertise in training measurement and statistics inspired me to stretch myself analytically. I would like to thank him for his guidance throughout this effort.

Edward Mann, Director of NY Office Systems Services, supported this project from its inception. He encouraged me throughout this process by providing the time and resources when I needed it most. I am in his debt.

As my thesis advisor, Dr. Angus Reynolds, Director and Professor of Training and Learning Technology, spent a great deal of time in assisting me with the writing of this thesis project. He gave me the tools and concepts I needed to complete this work. I am extremely grateful for all the help he provided.

TABLE OF CONTENTS

ACKNOWLEDGEMENTS iii

LIST OF TABLES vi

LIST OF FIGURES vi

Chapter

1. INTRODUCTION 1

Overview 1
Background 2
Statement of the Problem 6
Purpose of the Project 7
Definition of Terms 8
Assumptions 11
Limitations 11
Method and Procedures 12
Summary 14

2. ANALYSIS 16

Introduction 16
Needs Analysis 16
Instructional Goal 31
Literature, Existing Course, and Material Review . 32
Plan for Design and Development Effort 41
Summary 44

3. DESIGN 46

Introduction 46
Instructional Task Analysis 46
Instructional Objectives 49
Entry Behaviors Defined 54
Group and Sequence Objectives 57
Learning Activities Specification 57
Assessment System Specification 61
Evaluation System Specification 62
Learning Transfer System Specification 63
Review and Selection of Existing Materials 65
Summary 66

4. DEVELOPMENT 67

Introduction 67
Learning Activity Development Scheme 67
Learning Activity Development 67
Learning Activity Review 71
Materials for Formative Evaluation Produced . . 73
Summary 73

5. IMPLEMENTATION 74

Introduction 74
Materials for Implementation Reproduced 74
Instructional Delivery 74
Data Collection 78
Summary 78

6. EVALUATION 80

Introduction 80
Formative Evaluation 80
Summative Evaluation 91
Learning Transfer 100
Summary 106

7. SUMMARY AND RECOMMENDATIONS 107

Introduction 107
Methods and Procedures Used 107
Conclusions 108
Recommendations 113
Concluding Statement 115

APPENDIX A. Survey of IBM 8100 DISOSS Users 117

APPENDIX B. Secretary Job Analysis 121

APPENDIX C. Learner Analysis Questionnaire 127

APPENDIX D. Project Planning Tools 135

APPENDIX E. Budget Methodology 139

APPENDIX F. Task Analysis 143

APPENDIX G. Performance Objectives and Test Items . . 153

APPENDIX H. Instructional Strategy 209

APPENDIX I. Materials 234

APPENDIX J. Evaluation Instruments 261

APPENDIX K. IBM 8100 DOSF "Mini Lesson" 280

APPENDIX L. Formative Evaluation Test Results 304

APPENDIX M. Training Session Test Results 307

BIBLIOGRAPHY 312

LIST OF TABLES

Table

1. Profile of DISOSS Users 18
2. Budget Summary - DISOSS Project 44
3. DISOSS Instructional Strategy Matrix 61
4. Instructional Delivery of DISOSS Functions 75
5. Summary of Planned Instructional Delivery . . . 77
6. Formative Evaluation for DISOSS Instruction 81
7. DISOSS Test Results 92

LIST OF FIGURES

Figure

1. DISOSS Screens 48
2. IBM 8100 System 8775 Keyboard 56

Figures were obtained from Distributed Office Support System/8100 user's reference (fifth edition). (technical journal SH12-5343-4) published by International Business Machines Corporation (1986).

CHAPTER 1

INTRODUCTION

Overview

During the last decade, computer-based electronic mail systems have become a significant office communications technology. Electronic messaging has developed into a necessity in many large corporations. This is certainly true for American Express TRS Company, Inc. One such system currently being used at American Express is IBM's DISOSS. The Distributed Office Support System (DISOSS) is a text and data communications facility that runs on one or more network host computers, connecting a variety of hardware and software products used by American Express staff around the world. While providing for easy transfer of documents and messages, DISOSS also provides for document storage and retrieval.

This document contains an instructional system design model developed specifically for training new American Express TRS employees on the Distributed Office Support System, better known as DISOSS. All relevant support material for each phase of the design process; analysis, design, development, implementation, and evaluation is contained within this document.

Background

Founded in 1850, American Express Company today is one of the world leaders in travel and financial services. The Company had 1988 revenues of nearly $23 billion. Net income exceeded $1 billion. The Company is comprised of four subsidiaries or business units: IDS Financial Services, American Express Bank, Shearson Lehman Hutton, and Travel Related Services.

IDS Financial Services provides personal financial planning services to over one million families. Products include investment certificates, mutual funds, life insurance, annuities, tax-exempt investments, limited partnerships, and unit investment trusts. In 1988, IDS managed or owned assets in excess of $38 billion.

American Express Bank (AEB) handles the asset management and investment needs of a worldwide base of clients consisting of individuals, corporations, banks, and government entities. In 1988, AEB reported a net income of $149 million.

Shearson Lehman Hutton works with corporations, institutions, governments, and individuals throughout the world to deliver a comprehensive combination of investment banking, merchant banking, investment advisory, asset management, securities trading, and real estate services. To strengthen this business unit's position in the marketplace, in 1988, Shearson Lehman acquired E. F. Hutton. In this same year, Shearson Lehman Hutton earned $96 million.

The foundation of the American Express Company is the wholly owned subsidiary, Travel Related Services. TRS markets the family of American Express Cards; the American Express Card, Gold Card, Platinum Card, Optima Card, and Corporate Card. Other products include Travelers Checques, American Express Money Orders, and Gift Checques. Under TRS, Direct Marketing provides premium merchandise, life insurance, credit lines, and various publications. TRS's Travel network of over 1,600 locations serves millions of people around the world. TRS Travel Management Services division helps businesses schedule travel and control travel and entertainment expenses. Finally, TRS's Data Based Services Group is a third-party processor of debit and credit card transactions, providing data processing for a wide variety of industries. TRS realized a record net income of $733 million in 1988.

TRS Technologies supports all the internal system and technological requirements of this business unit. Under TRS Technologies, the Worldwide Telecommunications division supports the Consolidated Data Network, otherwise known as the DISOSS Network. With over 100,000 employees and over 2,500 American Express offices worldwide, access to information, communication and the efficient distribution and storage of documents becomes critical to this organization's success. The DISOSS Network provides the vital communication link for all of American Express' offices. There are currently over 3,000 Corporate Electronic Mail users linked to the DISOSS Network.

Under the Worldwide Telecommunication division, Office Systems Services departments located in Greensboro, North Carolina; Jacksonville and Fort Lauderdale, Florida; Markham, Ontario; Phoenix, Arizona; Brighton, England; and New York, New York provide direct support to TRS's internal clients. The Office Systems Services departments provide ongoing, internal customer support, connectivity to the DISOSS Network, and training.

The New York Office Systems Services department, located in the World Financial Center in New York City at TRS's headquarters, serves approximately 300 internal clients. The 24-hour help desk provides one-on-one support for all New York clients accessing any of the programs resident on the mainframe computer or host located in Phoenix, Arizona. The first level of support for the New York users at the World Financial Center is the help desk in New York. After hours, users call the second level of support, the Phoenix help desk where an Office Systems Services representative is on call 24 hours a day, seven days a week.

There are currently four programs linked to the DISOSS Network. Each provides the user with a text editor and electronic messaging capabilities. This project will focus on the IBM 8100 System link to DISOSS. Also resident on the mainframe computer are various databases containing confidential Cardmember information and business statistics. New York Office Systems Services (NY-OSS) supports all programs linked to the

DISOSS Network and gives internal clients access to the various databases resident on the host in Phoenix, Arizona.

One of the four programs resident on the host in Phoenix, Arizona is the IBM 8100 System. A piece of DISOSS is resident in this system and linked to the network in Phoenix. Currently, there are 200 users in the World Financial Center offices of American Express TRS Company accessing the IBM 8100 System. Included in this total is a growing number of personal computer users who are linked to this system in order to access DISOSS. The user population is constantly changing and training is required for new employees and existing employees who will change positions within TRS.

This is a two-part system. Distributed Office Support Facility (DOSF) provides word and document processing functions. Distributed Office Support System (DISOSS), provides electronic messaging and file storage/retrieval. DISOSS is critical to the support of the IBM 8100 word processing system in that it offers users a means of electronically transferring documents and messages to all users linked to the host worldwide. Also, DISOSS provides users with the ability to permanently store documents through the mainframe computer resident in Phoenix, allowing for easy document retrieval.

DISOSS becomes more important as advanced training is considered. Beyond the basic functions of FILING, DISTRIBUTING, SEARCHING, and MAIL-LOG ACCESS available within DISOSS, users connected to DISOSS may also have access to programs on the host or mainframe computer. Access to these programs is granted on a need-only basis since much of the information is "sensitive" data related to American Express' Cardmember database. While the advanced features of DISOSS are not within the scope of this project, they are a significant reason for the increase in personal computer users requesting training for DISOSS.

Existing training for new users of the IBM 8100 System entails a three and one half day concentration on the Distributed Office Support Facility (DOSF), the text editor of the IBM 8100 System. The final half day of the four-day course covers DISOSS. With such a limited time devoted to DISOSS, the trainers were actually providing a demonstration of DISOSS, rather than a complete learning experience where trainees had practice performing DISOSS functions.

With this system of training, the learners received a general overview and booklet on DISOSS, however, this method proved to be inadequate based on the types of questions and problems received by the help desk. Trained users were calling the help desk for assistance on basic DISOSS functions. The growing number of personal computer users linked to DISOSS also presented additional training requirements that were not initially addressed during the design for training new users on the IBM 8100 System.

Statement of the Problem

Existing DISOSS training proved to be inadequate based upon the number and types of calls received from the New York and Phoenix help desks. An analysis of the help desk calls revealed that users were unable to completely perform some of the basic functions of DISOSS. Additionally, one of the IBM 8100 Systems at the World Financial Center "crashed" because users were not deleting their distribution, file, and search requests (a critical component within the DISOSS functions of DISTRIBUTING, FILING, and SEARCHING). Some users were also choosing alternative methods of distribution (sending facsimiles, overnight mail, and telephone calls) instead of efficiently using the DISOSS function of distributing electronically. Observations of users accessing DISOSS revealed that some users were not aware that on-line help existed. In many cases, where the user does not access a certain function frequently, this on-line help can assist the user in performing basic functions while also providing information about the DISOSS functions.

Based on this information, the designer determined that a definite training need existed and proceeded with a complete analysis of the situation. It was determined that these issues needed to be addressed within the design and development of training for DISOSS. After a complete analysis, it was also predicted that more information would be discovered that should be incorporated into a complete instructional system design model on DISOSS.

Purpose of the Project

The project was intended to enable TRS administrative and secretarial employees to access all the DISOSS functions and apply the concepts essential in performing these functions.

Throughout access to DISOSS, the learners will be able to get on-line help. It was important to approach the DISOSS training as a complete unit or course, rather than a brief overview added to the end of DOSF training. A complete instructional design was necessary to ensure that the learners received numerous opportunities for practice and information concerning the effective use of DISOSS.

Definition of Terms

Certain company-specific terms acceptable in American Express appear in this document and may be unfamiliar to the reader. Therefore, definitions are provided. Also, certain terms defined within the entire DISOSS training program (only a portion of which is covered within the Appendices) are provided here.

DISOSS	Distributed Office Support System, provides electronic messaging and storage/retrieval of documents. DISOSS is one of two components of the IBM 8100 System.
DISOSS Host Library	Not to be confused with the host or mainframe computer in Phoenix, Arizona, the DISOSS host library is a personal storage area for each user connected to the DISOSS Network. It is an area, on the host, specifically designated for the user.
DISOSS Network	The American Express Network also known as the Consolidated Data Network. Users

	connected to this Network may access a number of programs. All programs share the DISOSS Network. Currently there are 3,000+ Corporate Electronic Mail users linked to the DISOSS Network also referred to as the Network or CDN.
Document Class	Refers to a naming convention which has associated with it a specific length of time (Retention Period) and document size. For example, a document class of **LEGAL** will remain in the DISOSS host library for seven years and may be of any size.
DOSF	Distributed Office Support Facility, provides text editing functions. DOSF is one component of the two-part IBM 8100 System.
Enter Command Line	Users enter commands in this field to invoke certain functions. For example, to access DISOSS, the IBM 8100 user types the word "disoss" on the Enter Command Line.
OSS	Office Systems Services is a department of the Worldwide Telecommunications division of the American Express TRS Company. New York OSS or NY OSS will be referenced within the training as first level of support for the help desk. Phoenix OSS is the next level of support for the help desk.
OSS Client Directory	A directory listing of all users linked to the DISOSS Network. Users are listed

	alphabetically. Included in this listing is the user's location, program with which the user is accessing the DISOSS Network, the Network ID and the Network Address.
Host	Mainframe computer located in Phoenix, Arizona. DISOSS runs off of the host.
Network Address	Pertains to addressing information for communication purposes throughout the DISOSS Network. Each person has a specific Network Address particular to the program (e.g., IBM 8100 System) and location. Conventions for the various American Express network addresses is discussed within the training.
Network ID	Pertains to addressing information for communication purposes throughout the DISOSS network. Each person connected to the network has a unique network identification to send and receive mail.
Permanent Store	The place in the IBM 8100 Subsystem where documents are stored when they are not being processed. From the permanent store, a copy of a document can be sent to the host library or to a printer.
Recipient	A person to whom a DISOSS document or message is sent.
5210 Printer	Printer type for the IBM 8100 System. Both

personal computer users linked to the IBM 8100 System as well as 8775 Terminal users may access this printer type.

8775 Terminal	Dedicated terminal for connection to the IBM 8100 System. The majority of users connected to this system in the World Financial Center access this system through an 8775 Terminal.

Assumptions

1. That the target population consisting primarily of administrative assistants and secretaries of American Express TRS Company, Inc., will need to perform the functions offered by DISOSS to effectively perform their jobs.

2. That the target population may or may not have performed basic DOSF skills of the IBM 8100 System. Any given class population will probably include both categories.

Limitations

1. The Instructional Design Model for DISOSS training was developed for the above-mentioned target population resident at the World Financial Center of American Express TRS Company, Inc. This instructional module may not be suitable for other organizations, even those with a similar technical environment, without appropriate modifications which would need to reflect other organizations' specific internal client requirements.

2. The scope of this project, where the instructional design model is referenced in detail, covers three of nine

lessons of the complete DISOSS training. This project was designed and implemented as a piece of the whole to enable the designer to better focus on each aspect of the instructional system design model.

Method and Procedures

The Interservice Procedures for Instructional Systems Development, developed at the Center for Educational Technology, Florida State University (1976) was consulted throughout the development of training. Subject matter experts and relevant material concerning the IBM 8100 System were also consulted throughout the analysis and design phases of this procedure.

Analysis

To ensure that a training need existed and to better define the requirements, a complete needs assessment was conducted prior to defining the instructional goal. Through a survey, one-on-one interviews and data retrieved from the New York help desk and subject matter experts, a complete analysis was obtained.

A complete job analysis and task analysis was conducted subsequent to observations of the target population. In order to ensure the training was relevant to the target population, a learner analysis was conducted in the form of a questionnaire. Subject matter experts and reference material were consulted to identify an accurate technical environment. Based on the above analyses, an instructional goal was formulated to ensure the training developed met the needs of the target population.

Design

During this phase of the project, the designer consulted all available material on the IBM 8100 System, similar systems, as well as subject matter experts. The design relied heavily on the analysis phase of this project, particularly the task analysis. Eight tasks were identified as necessary to successfully perform the basic functions of DISOSS. Each task was carefully dissected into steps.

After steps were identified, the trainer developed measurable objectives based on Mager's (1984) documentation on instructional objectives. Based on the learner objectives developed, the designer constructed test items for each. Phillips' (1983) method was consulted during this process.

Development

An instructional strategy was developed in this phase. Dick and Carey's (1985) work was consulted to develop a complete training guide consisting of preinstructional activities, prerequisite skills, entry behaviors, sequence of lessons, pre-test and post test. Each lesson outlined information presentation, practice items, and feedback for each learning objective identified within the design phase of this project.

Implementation

The designer conducted training based on the instructional strategy developed. Lessons one through three of the nine-lesson plan were implemented. Instructional material and media were presented during relevant portions of the training. An entry level test was administered prior to training. The training was delivered twice.

Evaluation

Formative and summative evaluations were conducted. Gagne's method was used during the formative evaluation and Kirkpatrick's during the summative evaluation. The data collected from the implementation phase was carefully analyzed. The results of training were demonstrated with the use of an entry level test, pre-test, post test, in addition to an attitude survey. Statistical analysis was provided for all tests.

Two levels of evaluation took place during this phase; reaction and learning. Each group completed a pre-test (identical to the post test). At the conclusion of training, a comprehensive post test was administered to compare the results against the instructional goal, evaluate the effectiveness of the training, and provide data for future action steps and recommendations. An attitude survey was also administered to measure the learners' reaction to the instruction. Behavior and results were described and a recommendation for measuring each was provided. A complete outline was provided as a reference for future work on this project to enable trainers to effectively measure results for DISOSS instruction.

Summary

Through careful analysis, it was determined that a definite training need existed for DISOSS instruction. Users were unable to perform the basic functions of DISOSS. Also, in the current training for the IBM 8100 DOSF/DISOSS instruction, learners were not provided an opportunity to practice the DISOSS functions. As a result, an instructional system design model was developed to address this training requirement.

This chapter provided background information. A statement of the problem as it existed at the American Express TRS Company, Inc., was presented along with this project's purpose. To assist the reader of this project, a definition of terms section was supplied. Assumptions and limitations of this project were included for future reference by other professionals in the training field who may have a need to consult this document as it relates to similar projects. An overview of the methods and procedures followed, encompassing analysis, design, development, implementation, and evaluation. A detailed description of each phase of the instruction system design model will be presented in the subsequent chapters.

CHAPTER 2

ANALYSIS

Introduction

This chapter defines the complete analysis performed in preparation for DISOSS training according to an instructional system design model. In this first phase of the project, the designer completed a needs analysis including, a job and task analysis, learner analysis, and organizational constraints that would inhibit recommended action based on these analyses. An instructional goal was defined to address the learning requirements of the target population. A review of relevant theory and literature pertaining to DISOSS, electronic messaging systems and systems training is also presented in this chapter along with a plan for design and development, a specific project plan and budget. The results of this analysis led the designer to pursue the project since a definite training need became apparent as the analysis proceeded.

Needs Analysis

To determine whether or not a training need existed, the designer conducted one-on-one interviews, a phone survey and analyzed the types of calls received from the New York and Phoenix help desks. Also, the control operator of the IBM 8100 System was interviewed, providing valuable input regarding current use of the DISOSS functions. This was compared with the existing training and materials implemented in Office Systems.

The DOSF portion of instruction on the IBM 8100 System was sound. After careful review of the existing training for IBM 8100 DOSF/DISOSS, the designer found the DISOSS portion of training required improvement. No explanation of the DISOSS Network was provided in the existing course or materials. No connection was made between the target population's job and the functions that may be performed within DISOSS. No visual representation between the user and the actual connection to the IBM 8100 System and ultimately the DISOSS Network was provided within the existing course and materials. The fact that on-line help is available throughout DISOSS was mentioned only briefly in the existing material. Also, the DELETing of FILE, SEARCH, DISTRIBUTE requests, and MAIL-LOG clean up was not mentioned in the existing course as critical to system maintenance. All of these issues would be addressed in the design and development phases of this project.

A total of ten, informal, "open-ended" interviews with current DISOSS users were conducted to identify training needs and determine present performance of basic DISOSS functions. The designer chose a one-on-one, unstructured approach in order to elicit less obvious data that would be essential to the formulation of an instructional goal. The designer spent approximately one hour with each interviewee who had received previous training on the IBM 8100 System for DOSF/DISOSS. The designer received valuable feedback concerning the use of DISOSS by existing clients.

As the users accessed DISOSS, the designer noted that lack of use of basic DISOSS functions plays a major part in proficiency levels. Those who use DISOSS functions daily due to the nature of their work are more comfortable with the system and have mastered the skills. Based on these interviews, the designer developed a profile for the infrequent user and frequent user, listing functions these two groups access most often. Table 1 defines the characteristics of these two groups.

Table 1

Profile of DISOSS Users

Infrequent Users	Frequent Users
- FILE to DISOSS - ACCESS MAIL-LOG - SEARCH/retrieve filed documents	- FILE to DISOSS - ACCESS MAIL-LOG - SEARCH/retrieve filed documents - DISTRIBUTE documents and messages - Receive/print documents from MAIL-LOG

The implications of these two profiles may indicate that training should be designed for two different groups, however, the needs of the users may change at any time. This should be carefully considered in the design and development phases of the model. After training, some of the interviewees stated that they changed their distribution and communication patterns because they were exposed to the functions they could perform with DISOSS. Some interviewees also stated that when their jobs changed (i.e., new managers were assigned to them), their use of DISOSS changed.

The interviews also revealed that, in general, users do not find DISOSS to be difficult. However, some individuals are "intimidated" by it and choose other methods (i.e., sending facsimiles, phoning, express mailing) when using DISOSS would be more efficient and timely. Some work around the system by deleting from their permanent store in DOSF to make more space available rather than FILE to DISOSS (with relatively unlimited space) and then deleting from their permanent store. Several interviewees did not know that on-line help was available in DISOSS.

Training needs to address these issues by presenting DISOSS as a user-friendly system capable of assisting users in their daily activities. Short cuts and clear examples of how users can benefit from DISOSS should be included. Also, to address the fact that the user population will be varied in terms of the frequency with which they access DISOSS, emphasis should be placed on accessing help through DISOSS and support through the Office Systems Services help desk.

The designer conducted a survey of a representative sample of the target population. A sample survey and statistical data may be found in Appendix A. Fifty users of the IBM 8100 System responded to this survey. The results of the survey were carefully analyzed and incorporated within the instructional goal.

Forty-six percent of those surveyed had been using DISOSS for less than one year. There is a correlation between experience and use of DISOSS. The people who use DISOSS infrequently have had access to DISOSS for less than a year. Forty percent of the users stated that they infrequently received mail in DISOSS, however, Office Systems Services sends all users mail on a weekly basis. The designer believed that some of the data obtained may be skewed because the "infrequent" users were unfamiliar with the basics of DISOSS. While mail is sent by Office Systems Services on a weekly basis, the "infrequent" user may choose not to read the mail. A vast majority, ninety-four percent, did not DELETE their FILE, SEARCH, and DISTRIBUTION REQUESTS and eighty-six percent stated they were unfamiliar with this option. Failure to do this results in a "slow-down" of the system and can ultimately lead to a "system crash." A summary of the results of the survey follows.

- Fifty-two percent "infrequently" DISTRIBUTED a message through DISOSS (of this group, 81 percent have been using DISOSS for less than one year). Forty-four percent DISTRIBUTED a document on a "monthly" basis.
- Fifty-six percent FILED documents to the host on a "monthly" basis. Thirty-eight percent FILED documents "infrequently." Of those who indicated they FILED documents, 48 percent used a document class of RETAIN. It should be noted that users who do not need a permanent copy of a document may choose not to file to the host.

- Forty-two percent "infrequently" SEARCHED for documents filed to the DISOSS host library. Twenty-six percent SEARCH for filed documents on a "monthly" basis. The frequency of SEARCHING within DISOSS is not a reflection of skill level, but is directly related to the frequency of FILING since users who FILE will need to SEARCH for filed documents if they have been deleted from their permanent stores.
- Forty percent "infrequently" receive documents and messages through DISOSS (of this group, 75 percent had been using DISOSS for less than a year). Considering that the majority of these users have been using DISOSS for less than one year, this statistic could be skewed due to this group's lack of experience with DISOSS; skewed to the extent that these users may be receiving documents and messages, but are not accessing their MAIL-LOGS because of lack of knowledge and experience.
- Eighty-two percent did not have an Office Systems Client Directory of users connected to the DISOSS Network. Of those who did not have an updated list 95 percent asked to receive an updated Client Directory.
- Eighty-six percent were not familiar with the List Status Option on each major function menu of DISOSS. Only six percent deleted their FILE, SEARCH, DISTRIBUTION requests. The List Status option of the basic functions; FILE, SEARCH, and DISTRIBUTE provides the user with information concerning whether or not the request to

FILE, SEARCH or DISTRIBUTE was successful ("complete") or in progress ("pending") or in error (in which case, the user receives a message with an error code, signifying that the FILE, SEARCH or DISTRIBUTION request was unsuccessful). Users do not realize that each time they perform a basic DISOSS function, a request is made. The requests build up in the system. The users should be checking the status of their FILE, SEARCH and DISTRIBUTION requests for two reasons:

1. To ensure that their FILE, SEARCH and DISTRIBUTE requests are successful ("complete").
2. To DELETE "completed" requests since they can build up in the system and cause a "system crash."

The "List Status of Your ________ (FILE, SEARCH, DISTRIBUTION) Activities" option allows the users to check the success of their requests and, at the same time, to DELETE all requests that have a status of "completed."

Those who accessed DISOSS because they were in frequent contact with other Amex locations, accessed the major functions more frequently. This supports the information obtained through the one-on-one interviews where DISOSS users seem to fall into two separate groups; frequent users and infrequent users. In addition, those users who have been using DISOSS for less than one year, "infrequently" accessed the major functions. In other words, those who send mail, check their mail. Those who do not, have a tendency to state they do not receive mail.

The information obtained through this survey will be valuable in developing a design for DISOSS instruction. The issues raised through this survey should be addressed during the next phase of the project.

Data obtained from a subject matter expert also contributed to the needs assessment. According to the New York OSS control operator, one of the four systems supporting the 200 users at the World Financial Center actually "crashed" because the users neglected to DELETE their FILE, SEARCH, DISTRIBUTION requests within DISOSS. Also, contributing to this system down time was the fact that these users were not ACCESSING their MAIL-LOGS within DISOSS and deleting unwanted mail. Some users had over 300 FILE, SEARCH and DISTRIBUTION requests. Others had over 100 messages in their MAIL-LOGS (some messages were in users' MAIL-LOGS as far back as 1987). The users would read their mail and act upon it, but they would not maintain the MAIL-LOG. This is the equivalent of a manager reading, forwarding and editing mail received in his inbox and, at the same time, leaving copies of all this mail in the inbox. With this method of working, the inbox soon becomes "full." This concept also applies to simple three-line messages. Users were reading their messages, but not deleting them. This would be the equivalent of needlessly saving phone messages from one year ago.

This system "crash" affected 62 of the users at the World Financial Center. This problem is reflected in the survey conducted by the designer. The control operator indicated that the system recovery entailed contacting all users affected and asking them to delete all requests and ACCESS their MAIL-LOGS immediately (to delete all unwanted mail). The system could not be recovered until all users implemented this procedure. This incident clearly points to a training need.

Data retrieved from the help desk calls received in New York as well as Phoenix was also consulted for the needs assessment. The types of questions received from the help desks revealed the frequently asked questions concerning basic DISOSS functions. It was important to address these questions in order to improve training and reduce the number of calls to the help desks so that overall support of Office Systems Services' clients could also improve.

The help desks in New York and Phoenix provide users with ongoing support on DOSF (the text editor) and DISOSS functions as well as support of other programs resident on the host. Any question or problem that users may have is received by one of these two support centers. Users call the New York help desk during normal working hours (nine o'clock in the morning through five o'clock in the evening, EST) and call the Phoenix help desk after hours and on weekends. The intent of the help desk is to provide client support on all programs managed by OSS, it is not intended as a training tool for users. Valuable information concerning questions on DISOSS was obtained from the problem logs maintained by the Phoenix and New York help desks. The most frequently asked questions concerning DISOSS are listed below.

- How do I print a document I received in my MAIL-LOG? (Some users do not know that they must exit DISOSS after selecting the print option to activate the queue for printing.)

- How do I get a document from DISOSS into my permanent store so I may work on it? (This involves basic skills in ACCESSING the MAIL-LOG.)
- I can't send a document. (Some users do not verify the correct DISOSS recipient name and/or address and this is a basic function within DISOSS, DISTRIBUTE.) Also, without an updated Office Systems Client Directory, many users input inaccurate network IDs and/or network addresses which also accounts for this type of problem.
- How do I print out all the names of documents I have filed to DISOSS? (This involves a basic DISOSS function, SEARCH.)

The answers to these most frequently asked questions should be incorporated into the design of this project. Improved DISOSS training and reference materials should relieve the two help desks from answering questions of this type. This would also enable the help desks to focus on clients with more unusual problems and advanced questions.

DISOSS is valuable to the users, however, the users seem to "tailor" the system to meet their specific needs. The training should present the benefits of this electronic messaging/document transfer service and assist users in determining how the DISOSS capabilities can meet their needs. Focusing on the issues raised through the interviews with existing DISOSS users and subject matter experts, the survey and help desk feedback, will ensure training needs are met.

The methods employed to complete the needs analysis proved valuable. By going directly to the client to determine the needs of the population, the designer discovered specific requirements that the existing training was not addressing. The data obtained should be incorporated into the instructional design to ensure that training is relevant.

Job Task Analysis

Within American Express TRS Company, Inc. the majority of users of the IBM 8100 System are secretaries and administrative assistants. The role of a secretary is quite diversified. Secretaries may support from one to seven individuals, depending upon the particular department or work load. All engage in the activities of distributing, filing, and typing. All perform as liaison, administrator and meeting planner. They are responsible for being the primary contact between the outside and their bosses. While overseeing the day-to-day functional issues of their offices, they must also manage the activities of their supervisors by coordinating meetings, preparing expense vouchers, making travel arrangements, and contacting internal/external personnel on behalf of their supervisors. Many secretaries are also asked to analyze data by preparing expense tracking reports, analyses of overtime and inventory analysis.

To a certain degree, secretaries in today's workplace need to be a "jack of all trades." They are expected to juggle a variety of activities accurately and efficiently. The major divisions or duties for the job of a secretary may be found in Appendix B.

Secretaries engage in filing and distribution on a daily basis. Also involved in their job is the retrieval of files and the receipt of documents. DISOSS assists secretaries in performing these tasks. Also, DISOSS can assist secretaries in their liaison activities and scheduling activities because contact with any American Express office is accessible with the electronic messaging features that DISOSS provides. The functions DISOSS provides are extremely helpful in fulfilling the responsibilities of a secretary.

Target Population Analysis

A learner analysis was conducted to determine the target population's needs, expectations and attitudes regarding the topic of DISOSS. A copy of this questionnaire with appropriate data may be found in Appendix C. Thirty individuals were surveyed or interviewed. Questions concerning DOSF (the IBM 8100's text editor) were also included within the questionnaire because training for DOSF and DISOSS will be combined within the curriculum for secretaries at American Express TRS Company. The scope of this project, however, is limited to DISOSS. Access to personnel records was prohibited by the Company. In general, the target population consists of females between the ages of 20 and 35 years. Most have high school educations. Some of the target population have college degrees and some are enrolled in the tuition reimbursement program offered by American Express where employees may earn college credits in the evenings while working at American Express.

Generally, the target population's attitudes regarding computers and word processing systems was positive. Given a choice between a computer or a typewriter, 90 percent stated they preferred to work with a computer. Eighty-three percent either agreed or strongly agreed with the statement that given the opportunity, they would eagerly learn a new word processing system or computer program. The remaining learners were neutral with three individuals stating they disagreed with this statement. The majority of the learners were either neutral or disagreed with the statement that working with computers was difficult.

The questionnaire revealed that a majority of the target population (77 percent) had worked with some type of word processing package before for an average of eight months. Thirteen percent of the population have had some exposure to DOSF. While the design will not focus on DOSF, these questions become relevant as entry level skills are introduced within the instructional design.

Less than ten percent had ever worked with an electronic mail package. Since one of the basic functions of DISOSS is the distribution of documents and messages, the questionnaire was designed to determine the learners' communication requirements. Communication between the various American Express offices was dictated by the department in which the learners worked. Five separate departments were identified in this questionnaire.

Three of which were in contact with other American Express offices on a daily basis. All five departments identified required communication to other American Express offices. This requirement is addressed through the basic functions of DISTRIBUTE and ACCESS to the MAIL-LOG. All learners stated that they currently must file and/or look for files for themselves or their supervisors. The basic DISOSS function of FILE will address this need.

The target population's expectations for taking the IBM 8100 System training was primarily concerned with text editing functions (found in DOSF). However, without any exposure as to what an electronic mail package such as DISOSS can do, it was not surprising that the learners did not include this in their personal objectives for taking the training.

Considering the learners' positive attitude toward computers and word processing systems, the designer thought the training sessions would go faster than initially anticipated. Perhaps the learners' lack of exposure to electronic mail packages would work to the designer's advantage. This is because the designer has introduced DISOSS to new users with very similar characteristics as those of the target population. Learners were amazed at the capabilities of this electronic messaging program. It is as though a new world has opened up to them. Learners immediately see the value of such an application. For example, many realize that they will save tremendous time by sending a document to another American Express office via DISOSS rather than via an overnight mail service. With the latter option, learners had to copy the document(s), prepare an addressed envelope for the package, fill out the shipping order form and if it was after four o'clock in the afternoon, they would have to hand deliver the prepared envelope to the shipping and receiving department themselves. If the designer demonstrates all the advantages of DISOSS, it was anticipated that the learners, without "systems phobia," would become more motivated with this new tool.

The designer considered relating the learners' frequent communication with Amex offices and their need to file regularly with the appropriate functions in DISOSS. In this way, DISOSS would be connected to relevant activities and tasks. The designer planned on incorporating examples of how DISOSS can assist in these tasks throughout the instruction. Also, based on the learner analysis, the designer planned on incorporating the target population's requirement for communication and filing within the instructional design.

Organizational Constraints

It was the designer's recommendation, based on the target population and needs analysis, that two separate training designs be developed for DISOSS training. The one-on-one interviews revealed two distinct groups of users; the infrequent user and the frequent user. Each group presented specific needs which the designer believed warranted two separate training designs. Senior management at American Express did not want two courses designed for these two groups. They concluded that such a training strategy may cause problems in the long run should the learners' requirements change during their careers at American

Express TRS Company. Secretaries' positions change frequently and their needs would also change, therefore, senior management felt that the training should provide a complete focus of all functions of DISOSS.

The designer requested a terminal device attached to a projector to enable the learners to see the appropriate screens projected on a wall in the training room. Budgetary limitations prevented this. However, senior management indicated that this item would be considered for the following year.

Instructional Goal

After training, the learners will be able to file, retrieve, distribute, receive documents, and send/receive messages through the software product DISOSS (Distributed Office Support System) and describe in their own words the significance of these functions. The major tasks necessary to achieve this instructional goal are to define DISOSS, access DISOSS, review the basic DISOSS functions; FILE, SEARCH, DISTRIBUTE and FILE, DISTRIBUTE a message, and ACCESS the MAIL-LOG. Throughout access to DISOSS, on-line HELP is referred to within each task.

With such an instructional goal, the designer anticipated that it will be necessary to simulate the actual working environment that learners will experience back in their offices. In order to provide learners with practical experience in FILING, SEARCHING, DISTRIBUTING, and MAIL-LOG ACCESS, the designer planned on simulating activities that the target population need to do in their jobs. This would enable the designer to simulate as much as possible the working conditions the learners would encounter back in their offices.

Considering the target population's experience, it was necessary to better define the DISOSS network and the basic concepts of an electronic mail package. Most of the learners have no prior experience with an electronic mail package. The designer must take this into consideration during the design and development phases to clearly define the critical concepts of this electronic mail package and to provide learners with multiple opportunities to apply these concepts.

Based on the needs analysis, the designer considered the questions asked of the help desks, the use of on-line HELP, the omission of DELETING FILE, DISTRIBUTE, and SEARCH requests on the part of active users. Also, the issue of using DISOSS efficiently was addressed (for example, some active DISOSS users are mailing DOSF documents to American Express offices via overnight mail rather than through DISOSS).

Literature, Existing Course, and Material Review

The designer consulted available literature on similar electronic mail packages produced by a number of computer software companies as well as literature pertaining to systems training. Support information published by IBM was reviewed as well as existing course material on the IBM 8100 System and Office Systems Services training material. Related theory was reviewed to enhance the project.

Related Theory

Intellectual skills, verbal information and motor skills are involved in performing the basic DISOSS functions. According to Gagne (1985), there are subcategories of intellectual skills. The learners need to apply the concept of naming conventions to arrive at their network identifications. In using the Office Systems Services client directory, the learners engage in another subcategory of intellectual skills, discrimination. Network IDs vary, depending upon the program accessed on the DISOSS Network. The learners need to discriminate, for example, between the IBM 8100 system's Network IDs and other programs' Network IDs. This discrimination becomes critical when the learners need to supply the Network ID for an individual to whom they are DISTRIBUTING documents and/or messages. Using the client directory involves discrimination between various programs and their appropriate Network addresses, as well.

Learners also need to discriminate between a variety of document classes. This discrimination becomes critical when learners engage in the basic function, FILE to DISOSS host library. For example, filing a document with a class of RETAIN will file a document of any size for an indefinite period of time while filing a document with a class of DOC will result in storing the document in the host library for a period of six months. Without this ability to discriminate between document classes, users may lose valuable documents.

The learners need to recognize the DISOSS Network structure in order to work intelligently with the basic function of

DISTRIBUTE. In so doing, they need to apply the rule that users may communicate to all users linked to the DISOSS Network, regardless of the program type. These intellectual skills are critical in defining DISOSS.

Verbal information is required in order for the learners to cite the significance of each basic DISOSS function. They provide verbal information when stating how they access each basic DISOSS function. They need to identify the purpose and procedure for getting on-line HELP as well as the appropriate scenario for calling the help desks for support.

Lastly, the learners need to engage in motor skills. Signing on to the IBM 8100 system (an entry level skill), accessing DISOSS, using on-line HELP, exiting HELP, and exiting DISOSS are all activities that involve motor skills. Critical in performing these motor skills is the use of an IBM 8100 8775 terminal and keyboard. The intellectual skills, verbal information and motor skills will be addressed in the development of appropriate instructional objectives.

Bloom's (1956) taxonomy is also relevant in considering the domains of learning necessary for achieving the instructional goal. The cognitive domain involves a hierarchy of categories that the designer found useful in applying to a project of this type. For the scope of this project, the learners engage in what Bloom cites as the lower levels of thinking. Starting at the first category within the cognitive domain, learners need to recognize the DISOSS Network structure and recall basic facts such as identifying that the host is actually a mainframe computer resident in Phoenix. The project also encompasses the next category, comprehension. Learners need to paraphrase or put in their own words the purpose of each of the basic DISOSS functions and the reason for accessing HELP. They also need to interpret the rules presented in using document classes for FILING to the DISOSS host library. This ability to apply basic rules or facts is encompassed in the next category of Bloom's hierarchy for the cognitive domain, application. Given basic facts concerning the Office Systems Services Client Directory, the learners need to apply the information and demonstrate their comprehension of using the Client Directory in addressing mail to be DISTRIBUTED to other users connected to the DISOSS Network.

The psychomotor domain of the taxonomy is also relevant to the project. In learning how to use the DISOSS program, learners need to engage in a variety of psychomotor skills. The hierarchy consists of imitation, manipulation, precision, articulation and, finally, naturalization. All categories may need to be applied for the successful performance of the basic DISOSS functions. The ultimate goal of performing on-line where the learners complete the skills with ease was foremost in the designer's mind as the design and development of instruction proceeded.

Basic theory concerning computer systems and electronic mail packages was also consulted in preparation for the project. The first automatic digital computer was built by International Business Machines (IBM) in 1944 (Grauer and Sugrue, 1987). From the outset, IBM proved to be a major player within the computer industry, and still is. This same company produced the

Distributed Office Support System. Any electronic mail package, including DISOSS, incorporates the basic elements of communication; "a sender, a message, the transmission line over which the message is sent, and the receiver" (Grauer and Sugrue, 1987).

Literature Review

A data search was conducted through BRS Information Technologies to obtain relevant documentation to support this project. A search on the term "DISOSS" resulted in 228 sources. A search on "Distributed Office Support System" resulted in 96 sources. "IBM 8100" yielded 33 sources and "IBM Distributed Office Support System" yielded 93 sources. "Electronic Messaging" with "IBM" yielded eight sources. This extensive search proved useful to the designer in preparing for the development of DISOSS instruction. The designer chose to investigate those documents which related directly to the topic. A summary of a sampling of these sources, in addition to the designer's personal search for relevant documentation, is included in this literature review.

1. Pallatto, John. (1986). "IBM Software Helps Firms' Users Communicate," PC Week, 3:52.

This article reviewed the issues involved in developing a large-scale electronic mail network. Some companies are addressing the issue of having a variety of diverse computer systems linked to a network where document interchange between unlike systems is needed. One such solution companies are employing is DISOSS. This system performs document-translation and exchange transparent at the end-user level. At the core of the DISOSS technology is IBM's Document Interchange Architecture (DIA) and Document Content Architecture (DCA). "These architectures allow documents to be sent between a variety of IBM computer systems and non-IBM hardware, such as Data General, Digital Equipment Corporation, Control Data Corporation, and Wang computer hardware."

2. Beaver, Jennifer E. (1986). "Building Bridges to DISOSS (IBM Distributed Office Support System becoming the standard)," Computer Decisions, 1:80-4.

With the IBM Distributed Office Support System becoming the standard for electronic communication, the industry is building bridges to DISOSS for major office systems to connect to this electronic mail/document storage program. This article describes bridges to corporations' DISOSS networks, following IBM's "grand scheme" for linking office systems; System Network Architecture (SNA). Some vendors, such as DEC, Data General, and Hewlett-Packard Company, tie into DISOSS at the workstation level. These vendors run a DISOSS bridge software on a minicomputer. "The link integrates the vendor's office software, which also resides on the mini with DISOSS." Another method employed is to place bridge software both on the vendor's mini and on the IBM host. The information contained within this article reflects the strategy employed by American Express in linking unlike systems together to form a cohesive electronic mail system. Also highlighted are the critical, technical elements required for e-mail systems.

3. Micossi, Anita. (1985). "Breaking the Send Barrier," Computer Decisions, 1:18-20.

The benefits and functionality of IBM's DISOSS is described in this article. The library services provided through DISOSS allow for document storage and retrieval. It also provides translation and transmission of documents. A text transferral system to meet various corporations' requirements is highlighted with a listing of vendors, services, and costs for linking various computer systems to DISOSS.

4. Schultz, Brad. (1989). "Take a Letter, Mr. Postman," Datamation, 35:37-41.

In 1977, there were fewer than 10,000 electronic mail users worldwide. In 1987, the Electronic Mail Association estimated that there were one million users on public electronic mail services and 3.65 million users on private, in-house systems in North America alone. During the next decade, these systems are expected to be used by tens of millions worldwide. This rapid growth of electronic mail systems has resulted in organizations with as many as a dozen or more electronic mail systems. Attendees at the annual Electronic Messaging conference of 1988 indicated the new interest in communicating outside established, in-house e-mail systems to develop communication links with suppliers, vendors, consultants, etc. This article describes how the X.400 Message Handling System standards can solve electronic mail interworking problems and discusses the benefits of employing this standard as a strategic decision for the upcoming years. The X.400 DISOSS connection is one solution for IBM mainframes. This system will be employed by companies currently using DISOSS. The future of DISOSS is hinged on this new technology.

This article also highlighted the most popular U.S. public network e-mail services including Western Union's EasyLink, U.S. Sprint's Telemail, MCI Mail, and AT&T Mail. With the popularity of such electronic mail services, companies are now looking to communicate outside their organizations and a link to one of the public services provides this benefit.

5. Mastin, P. K. (1986). Technical Coordinator's Guide to Training Personal Computer Workstation End Users. Irving, Texas: International Business Machines Corporation.

While this guide was written for personal computer users, it proved quite useful in describing course design and development geared especially for technical application training. A practical approach for developing a curriculum was included in this guide along with a complete description of four presentation methods; lecture, discussion, demonstration and lab. The designer found this guide extremely helpful because it reinforced the basic tenants of an instructional design model with a focus on technical application training.

Survey of Existing Courses and Materials

The existing course and materials on DISOSS was produced by Office Systems Services in Phoenix. All documentation and instruction originates in Phoenix, and other Office Systems Services departments adopt or adapt this material to meet their particular clients' needs. IBM's technical manual served as a basis to the documentation developed by Phoenix OSS personnel. Prior to the needs analysis, the following was consulted:

1. The Office Systems Services IBM 8100 DOSF manual. (1985). Phoenix: unpublished manual prepared by American Express TRS Co., Inc., Office Systems Services development staff. This is a 132-page training manual, containing numerous exercises for trainees to practically apply concepts and skills for the text editor of the IBM 8100 System. This documentation was consulted for the project to identify entry level skills essential to DISOSS training.

2. The Office Systems Services DISOSS User Handbook. (1985). Phoenix: unpublished manual prepared by American Express TRS Co., Inc., Office Systems Services development staff. This handbook provides a basic overview of DISOSS and its functions without practical "hands-on" exercises. This may support the information revealed from the needs analysis where current users are having difficulty performing the basic functions of DISOSS. The DISOSS User Handbook is a 28-page booklet, containing no practice exercises where the users have experience with each of the functions. Some of the information within the DISOSS User Handbook was outdated. For example, certain American Express offices cited in the handbook had moved since the handbook was published. The Phoenix help desk telephone number was inaccurate. The naming convention information was also inaccurate. This handbook proved to be a

valuable starting point for the enhancement of DISOSS instruction.

3. International Business Machines Corporation. (1986). Distributed Office Support System/8100 User's Reference (fifth edition). (technical journal SH12-5343-4). New York: IBM.

This manual explains the use of the Distributed Office Support System/8100 in providing document transfer, retrieval, receipt and storage services. The terms and concepts applied in using this system are described with step-by-step procedures outlined for each DISOSS function. It is a detailed, comprehensive technical document from which Phoenix OSS development staff originally created the customized, abbreviated DISOSS handbook. This technical manual proved helpful in identifying appropriate screen images, relevant procedures, and appropriate language use in applying the concepts of this electronic mail service.

4. The existing training for the IBM 8100 DOSF/DISOSS system is conducted over a four-day period of time. The class started at 9:30 a.m. and ended at 4:30 p.m. each day. Three and one-half days were dedicated to DOSF and one-half day to DISOSS. The trainer provided a basic overview of DISOSS for the half-day session. A review of the training was conducted to gain better insight into the training techniques currently employed.

Plan for Design and Development Effort

Based on the needs analysis, the designer planned the design and development of an instructional model for DISOSS training.

The estimated student effort for this instruction was approximately three hours. Consequently, the scope of the project entailed an overview of the basic functions provided by DISOSS with access to DISOSS and HELP. The designer received approval from senior management to continue with the design and development of this project. The designer's director also requested that upon conclusion, the project be forwarded to the Office Systems Services of Phoenix, Arizona, for review and completion to be implemented at all Office System Services sites. The project was begun in February of 1989 and concluded in May with the final phase of the instructional design; evaluation.

Project Plan

Two project planning tools, Gantt and PERT charts, were developed to assist the designer in identifying critical paths for project completion and to ensure the instruction was delivered efficiently. A software program, Action Tracker, was also used throughout the project to assist the designer in day to day activities. Action Tracker provided an on-line reminder service, tracked open action items, and assisted the designer in keeping to the time frames outlined in the Gantt and PERT charts. It also provided a more detailed action plan based on the major topic items found in the Gantt and PERT charts. The project planning tools employed for the DISOSS instructional design may be found in Appendix D.

Budget

The total cost for the project was $13,416. Of this total, $6,817 is the total cost for all labor involved in the project.

The designer's hourly wage for budgetary considerations was calculated at $19.50. The administrative assistant's hourly wage was calculated at $15. The administrative assistant performed support tasks such as scheduling interviews with previous IBM 8100 DOSF/DISOSS trainees, copying, and typing. The participant's hourly wage was calculated at $15. The participants' efforts included their time for responding to the survey for the needs analysis, the questionnaire for the learners analysis, the one-on-one and small group trials as well as the implementation phase of the project. The subject matter experts invested time in the analysis phase of the project and their hourly wages have been calculated at $25. All costs associated with the project were broken down to correspond with each phase of the total design. Material and implementation costs were also provided. A detailed account of the budget for the entire project may be found in Appendix E. A summary is provided in Table 2 on the following page.

The system charge is the expense incurred for six IBM 8100 8775 terminal hook ups at a monthly charge of $317 each. This is a recurring cost that should be anticipated prior to DISOSS training and should also be considered as an ongoing expense during the life cycle of all DISOSS training. The budgetary data collected for the analysis, design, development, implementation, and evaluation phases of this project can also be applied in calculating ROI.

Table 2

Budget Summary - DISOSS Project

Category	Analysis	Design	Development	Implementation	Evaluation	TOTAL
Labor						
- Designer	$1,209.00	$1,657.50	$1,462.50	$468.00	$780.00	$5,577.00
- Participants	$525.00			$142.50	$277.50	$945.00
- SME	$100.00		$75.00			$175.00
- Admin. Asst.	$90.00	$15.00	$15.00			$120.00
Meals, Auto	$250.00	$300.00	$75.00	$58.00		$683.00
Office Supplies	$50.00	$5.00	$5.00	$10.00	$5.00	$75.00
Materials		$10.00	$40.00			$50.00
Printing, Reproductions	$10.00		$10.00	$60.00	$5.00	$85.00
System Charge		$951.00	$951.00	$1,902.00	$1,902.00	$5,706.00
TOTAL	$2,234.00	$2,938.50	$2,633.50	$2,640.50	$2,969.50	$13,416.00

Summary

A complete needs analysis revealed that a training need existed. Users of DISOSS are not able to perform some of the basic DISOSS functions completely. The users' lack of performing certain components of basic functions has led one of the IBM 8100 systems at the World Financial Center to "crash" causing considerable "down time" and inconvenience to the users affected. A thorough analysis included a user survey, one-on-one interviews, help desk call tracking and interviews with a subject matter expert.

The designer developed an instructional goal to address these issues. In preparation for a complete instructional design model, the designer consulted relevant literature and the existing course material. The survey of related theory and existing material proved helpful in defining the scope of the project. The concepts involved in such a complex system which offers electronic messaging and document storage are critical for a truly accurate instructional design for DISOSS training. This chapter also provided the plan for design and development, including a project plan and budget.

CHAPTER 3

DESIGN

Introduction

There is a certain beauty in symmetry and balance. While the Distributed Office Support System may be viewed by some as simply a tool, the designer attempted to highlight the aesthetics of the design of this program. Each of the basic DISOSS functions has a consistency and symmetry that enables the user to apply what is used in one function and carry over the same options to another function. From this perspective, the DISOSS program is "user friendly" and well designed. The designer attempted to reflect this balance in design within the instructional objectives, entry behaviors and sequenced objectives for DISOSS training.

Instructional Task Analysis

A complete task analysis for performing the basic DISOSS functions is comprised of eight steps with access to on-line help available within seven of the eight steps: define DISOSS, access DISOSS, review the basic DISOSS functions, FILE, SEARCH, DISTRIBUTE/FILE (when users distribute documents through DISOSS, the documents are automatically filed on the host for six months), distribute messages, ACCESS the MAIL-LOG. On-line help may be accessed throughout DISOSS. The complete task analysis for performing basic DISOSS functions may be found in Appendix F. For the purposes of this project, three of the eight tasks identified were implemented.

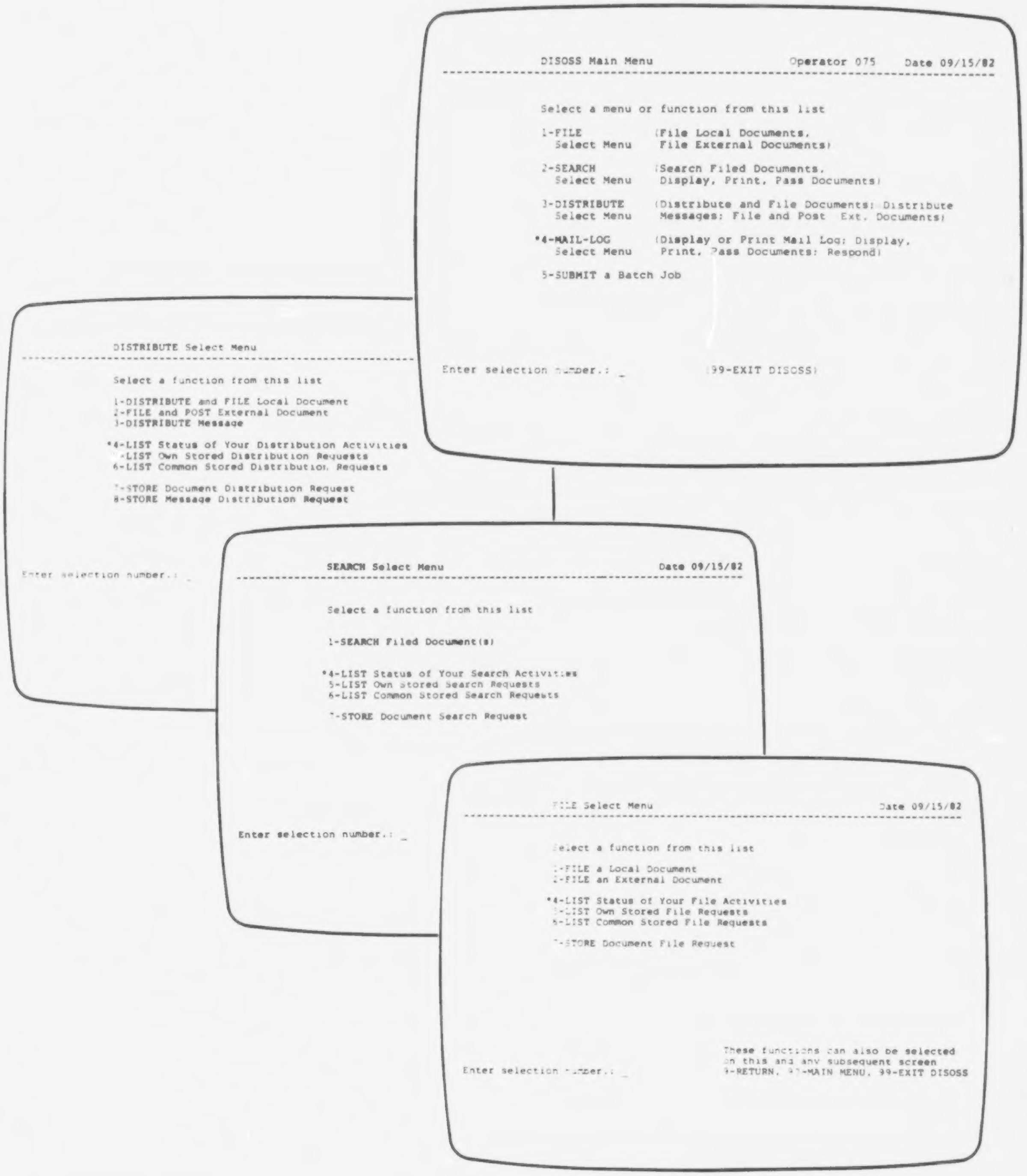
While the scope of this project is limited to define DISOSS, access DISOSS, and review the basic DISOSS functions; the major tasks of FILE, SEARCH, DISTRIBUTE and MAIL-LOG access should not be ignored. This project will be continued by one of the designer's associates in Phoenix, Arizona. It is planned that this associate will find the division of tasks useful in continuing this project.

The substeps under each of these major steps are consistent within three of the four major functions of DISOSS; FILE, SEARCH, and DISTRIBUTE. The program provides a consistent screen image which enables the user to apply the concepts of one function to the other two, thereby allowing for ease of use and learning. An example of the three consistent screen images is provided in Figure 1 on the following page.

The designer attempted to take advantage of the well designed program by identifying the similarities and cross-over concepts applicable from one basic function to another. The task analysis reflects this. While the scope of the project covers subskills one through three (Define DISOSS, access DISOSS, and review functions), Figure 1 was included to provide the reader with more of a complete overview of the basic DISOSS functions.

Figure 1

DISOSS Screens



```
DISOSS Main Menu                    Operator 075    Date 09/15/82
-----------------------------------------------------------------

Select a menu or function from this list

1-FILE          (File Local Documents,
  Select Menu    File External Documents)

2-SEARCH        (Search Filed Documents,
  Select Menu    Display, Print, Pass Documents)

3-DISTRIBUTE    (Distribute and File Documents; Distribute
  Select Menu    Messages; File and Post  Ext. Documents)

*4-MAIL-LOG     (Display or Print Mail Log; Display,
  Select Menu    Print, Pass Documents; Respond)

5-SUBMIT a Batch Job


Enter selection number.: _          (99-EXIT DISOSS)
```

```
DISTRIBUTE Select Menu
-----------------------------------------------------------------

Select a function from this list

1-DISTRIBUTE and FILE Local Document
2-FILE and POST External Document
3-DISTRIBUTE Message

*4-LIST Status of Your Distribution Activities
 5-LIST Own Stored Distribution Requests
 6-LIST Common Stored Distribution Requests

 7-STORE Document Distribution Request
 8-STORE Message Distribution Request


Enter selection number.: _
```

```
SEARCH Select Menu                                 Date 09/15/82
-----------------------------------------------------------------

Select a function from this list

1-SEARCH Filed Document(s)

*4-LIST Status of Your Search Activities
 5-LIST Own Stored Search Requests
 6-LIST Common Stored Search Requests

 7-STORE Document Search Request


Enter selection number.: _
```

```
FILE Select Menu                                   Date 09/15/82
-----------------------------------------------------------------

Select a function from this list

1-FILE a Local Document
2-FILE an External Document

*4-LIST Status of Your File Activities
 5-LIST Own Stored File Requests
 6-LIST Common Stored File Requests

 7-STORE Document File Request


                                   These functions can also be selected
                                   on this and any subsequent screen
Enter selection number.: _         9-RETURN, 90-MAIN MENU, 99-EXIT DISOSS
```

BEST COPY AVAILABLE

Instructional Objectives

Instructional objectives for each of the substeps identified within the task analysis were developed according to the methodology provided by Mager (1984). The sum of the objectives related to achieving the instructional goal:

> After training, the learners will be able to file, retrieve, distribute, receive documents and send/receive messages through the Distributed Office Support System and describe, in their own words, the significance of these functions.

Each instructional objective includes a condition statement, expected performance and the criteria involved in measuring the specific performance.

Since the designer implemented three of the eight substeps identified in the complete task analysis, the objectives for defining DISOSS, accessing DISOSS and review of DISOSS functions are provided below. The complete instructional objectives for the task of performing all the basic DISOSS functions may be found in Appendix G of this document.

1.0 Define DISOSS

1.1 Given the "DISOSS/personal computer" handout, the learners will be able to define DISOSS. This definition must include the identification of the host or mainframe located in Phoenix and the DISOSS network.

1.2 Given a description of DISOSS functions and given the "objectives" handout, the learners will describe the functions that can be performed through DISOSS. This description must include: FILE, SEARCH (or retrieve), DISTRIBUTE and access to the MAIL-LOG (or receive documents and messages).

1.3 Given a "network structure handout" and an explanation of the network, the learners will be able to recognize the DISOSS network structure. This recognition must include the learners' correct identification of locations linked to the DISOSS network as well as the other programs linked to the DISOSS network, allowing communication from one program to another.

1.4 Given an Office Systems Services client directory and description, the learners will use the Office Systems Services client directory. This must include the correct identification of users' network ID, network address, user agent and employee location (all of which can be found in the OSS client directory). The OSS client directory must be cited as a tool to find this information.

1.5 Given the support information, the learners will identify network support. This must include identification of the New York and Phoenix help desks and appropriate circumstances when learners should access the help desks.

1.6 Given a description of naming conventions, the learners will define DISOSS naming conventions. This must include the learners identifying their own DISOSS names with an explanation of how they arrived at determining their DISOSS names.

1.7 Given a "document classes and retention periods" handout, the learners will identify DISOSS classes and retention periods. This must include an explanation for using one class over another (because different classes have different retention periods). Learners must identify the appropriate class or classes for specific circumstances presented by the trainer (some circumstances may allow for more than one class as correct response).

2.0 Access DISOSS

2.1 Given access to the IBM 8100 System and instructions for accessing DISOSS, the learners will access DISOSS. Success of this function will bring the learners to the DISOSS main menu.

2.2 Given access to the DISOSS main menu and instructions for locating help function, the learners will access the help function and read help text. Success accessing this function will bring the learners to the help screen titled "Main Menu Functions." To verify that learners are reading the help text, they must answer the trainer's questions (oral question and answer activity).

2.3 Given access to the help function screen, the learners will identify the purpose and procedure for access to help throughout DISOSS. This must include a description, in the learners' own words and the purpose for accessing help. The learners must identify how to get help by screen and by item as well as how to exit the help function.

2.4 Given access to the help function screen, the learners will exit the help function. Success of this function will bring the learners back to the DISOSS main menu.

3.0 Review Functions

3.1 Given access to the DISOSS main menu, the learners will read the main menu. This must include learners' responses to instructor's questions regarding the main menu (to verify that the learners are reading the menu).

3.2 Given access to the DISOSS main menu and instructions for selecting desired function, the learners will identify procedure for accessing each function. This identification must include that the learners must select the function by its corresponding number and enter the selection number on the function line to access a specific function.

It was through the development of these objectives that the designer was able to address the requirements revealed in the needs analysis. While three of the eight substeps involved in the task of performing the basic DISOSS functions are described here, Appendix G details all objectives for the entire task. The objectives were designed to address the issues and needs of the target population:

- Since the majority of the target population had never worked with an electronic mail package before, it was important to design the objectives to address this issue. Learners need to know what a network is and what an electronic mail package can do (objectives 1.1-1.3).

- The survey of users revealed that an alarming number of clients did not have an updated OSS client directory. Providing an updated client directory to all users (objective 1.4) during training addressed this issue for new users. However, this client directory is constantly changing, therefore, an objective was developed to provide users with information for accessing the directory by performing the SEARCH function in DISOSS (objectives 5.5-5.8).
- The designer needed to highlight the significance of accessing the mail-log. Mail is sent to users on a weekly basis, however, 40 percent of the users in the survey conducted for the needs analysis said they "infrequently" receive mail (objective 8.1).
- It was necessary to provide practice on deleting activity requests and mail-log activities by using the list status option on the major functions menus and having the users describe the significance of this function. It was determined in the needs analysis that FILE, SEARCH, DISTRIBUTE REQUESTS in addition to no MAIL-LOG access overburdens the system and can cause system failure (objectives 4.13-4.15, 5.17, 6.13-6.15, 7.10, 8.1).
- During the one-on-one interviews for the needs analysis,

it was revealed that existing DISOSS users seem to fall into two groups: frequent DISOSS users and infrequent DISOSS users. Also, some users did not know that on-line help was available. To address both these issues, the designer developed objectives throughout the task of performing DISOSS functions which encompassed accessing the on-line help.

- Also, within the objectives, the designer addressed the most frequently asked questions of the New York and Phoenix help desks.
  - How do I print a document I received in my mail-log? Some users do not know that they must exit DISOSS after selecting the print option to activate the queue for printing. This question was addressed in objective 8.15.
  - How do I get a document from DISOSS into my permanent store so I may work on it? This question was addressed in objectives 5.15 and 8.13.
  - I can't send a document -- how do I send a document? Some users do not verify the correct DISOSS recipient name and/or address and this is a basic function within DISOSS, distribute. This is addressed in objectives 1.4, 7.5-7.6.

Entry Behaviors Defined

The entry behavior skills identified for the project encompassed basic skills in DOSF. The learners need to know how to get a list of documents in their permanent store, for example, in order to complete some of the objectives of the instruction. Just as a baby needs to learn to crawl before it can walk, the learners must be able to apply the basic skills of DOSF before proceeding with performing the DISOSS functions. The documents they will be filing to the DISOSS host library are first created using the IBM 8100 System's text editor DOSF. The documents they will be distributing will first be created in DOSF, as well. When learners SEARCH in DISOSS, they will be looking for documents previously filed (and filed documents, for the most part, are created in DOSF).

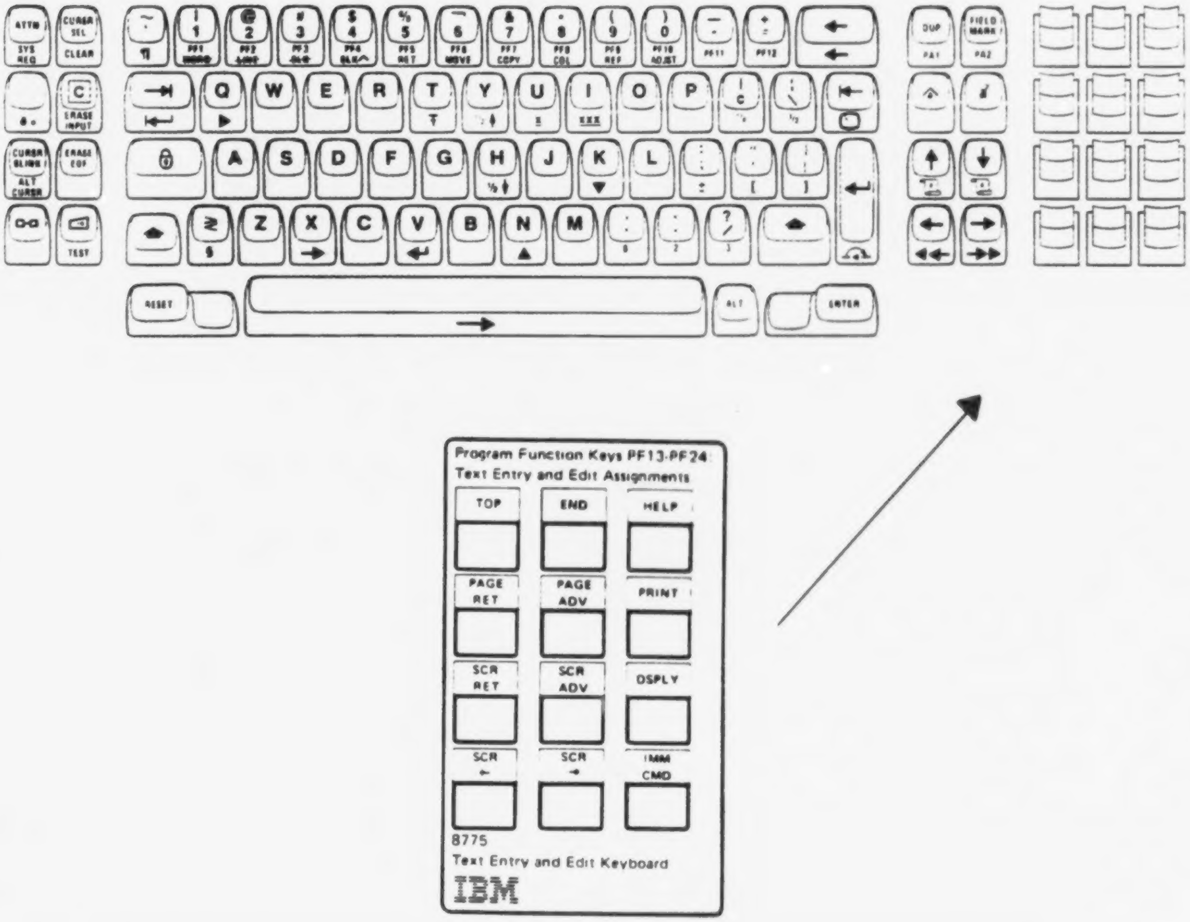
The specific entry behavior skills identified for the first three steps of the task analysis are as follows:

1. Define basic DOSF terminology
2. Identify purpose of DOSF
3. Sign on to 8100 system
4. Function on IBM 8100 8775 terminal keyboard

The learners will need to be able to identify or define basic DOSF terminology: permanent store, enter command line, 8775 terminal. The learners will need to be able to identify the purpose of DOSF which is: to enable IBM 8100 users to create, edit, format and print text. DOSF is the IBM 8100 system's text editor. Another critical entry level skill is to be able to sign onto the IBM 8100 system. Learners perform this by pressing the ALT+SYS REQ keys. The terminal display then prompts the learners to enter an operator number and password which is assigned for training class. The learners will also need to be able to function on an 8775 terminal keyboard. Specifically, they will need to use the CANCEL, IMM CMD, HELP, PAGE ADV, PAGE RTN keys. The figure below illustrates the 8775 keyboard with which the learners will need to be familiar.

Figure 2

IBM 8100 System 8775 Keyboard


Program Function Keys PF13-PF24
Text Entry and Edit Assignments
TOP
END
HELP
PAGE RET
PAGE ADV
PRINT
SCR RET
SCR ADV
DSPLY
SCR ←
SCR →
IMM CMD
8775
Text Entry and Edit Keyboard
IBM
ATTN
SYS REQ
CURSR SEL
CLEAR
ERASE INPUT
ERASE EOF
CURSR BLINK
ALT CURSR
TEST
DUP
PA1
FIELD MARK
PA2
RESET
ALT
ENTER

Group and Sequence Objectives

Certain basic concepts need to be addressed prior to access to DISOSS. The designer believed that in order for the learners to identify the basic DISOSS functions, they would first need to make a connection with the activities and tasks the learners currently perform. Therefore, a learning activity precedes the first objective, where the designer incorporated motivation and objectives for the entire unit. The second learning activity addressed objectives 1.0 - 1.7 (DISOSS network and conventions). The final learning activity grouped objectives 2.0 - 2.4 with 3.0 - 3.2. This third learning activity provides access to DISOSS where the learners have practice using the on-line HELP facility within DISOSS to get information about the main menu functions of DISOSS. A review of the basic functions of FILE, SEARCH, DISTRIBUTE and MAIL-LOG ACCESS is the final step of this learning activity.

Lesson 1	Pre-instructional Activity, Motivation
Lesson 2	Define DISOSS (Objectives 1.0-1.7)
Lesson 3	Access DISOSS, Review basic DISOSS functions (Objectives 2.0-2.4 and 3.0-3.2)

Learning Activities Specification

Each of the three subtasks identified for the project involves a number of learning activities. The development of these learning activities relied on Gagne's (1985) information processing model. Within this model Gagne addresses the flow of information where the learner will first take all information in within the sensory register. This information is stored in short term memory. It is the ultimate goal of instruction for vital information to pass from short term memory into long term memory where actual encoding of the information takes place and the learner in some way incorporates the information into a personal frame of reference to be called upon at will. One method the instructor uses to determine if encoding has taken place is to ask the learner to put in his or her own words what is a new concept actually means. The designer attempted to use this method in preparing the learning activities for DISOSS instruction. It is the retrieval of the information which demonstrates that the learner has encoded the information and is able to apply or call up the information appropriately. When the learner is able to apply the information to a novel situation, then learning transfer takes place.

The short term memory serves as a working memory where the learner may retrieve information stored in the long term memory to match up what is known with what is new. For example, the tape cassette afforded people with the ability to listen to their favorite music. They could re-play songs over and over again without depending upon a radio station to play their favorite song. The introduction of the video cassette was a new phenomenon within the population's lexicon of technological advances. The marketing of the video cassette and the actual naming of the product, reinforces Gagne's model of information processing. The concept of a cassette was used to give people a frame of reference. Most of the population knew what a tape cassette was. The new concept of video was added to market the new product. Just as people won't buy a product unless they can "fit" it into a frame of reference (i.e., cassette means play over and over and video means "see"), Gagne maintains that people won't "buy" unless there is a way to "fit" this new information into something that already exists.

Response generation, the next step in Gagne's model, involves the manner in which the learner will articulate the retrieval of information. This can be a movement of the fingers on the appropriate keys of a terminal in an appropriate sequence. The response generation may also take the form of a verbal response where the learner replies to a question posed by an instructor. Both of these specific examples of response generation are relevant in the learning activities designed for DISOSS instruction. Response generation is not limited to pressing the appropriate keys on a keyboard or replying verbally to a question, it may even take the form of a smile on the part of the learner.

As Gagne states, the "Penultimate stage of information processing consists in the activation of the effectors, this results in patterns of activity that can be externally observed." For example, when the learner performs a series of movements in the appropriate time and sequence, then this performance demonstrates that learning has occurred. Performance constitutes more than response generation. Performance is the sum of the parts where the learner pulls everything together into a complete and individual "pattern of activity."

The final step within the information processing model is feedback and the cycle then repeats itself. For example, the learner takes in information, encodes the information, and the response generation is pressing a series of keys on a personal computer keyboard. The system beeps loudly. The learner receives immediate feedback concerning the performance and may attempt to take corrective measures immediately, engaging in the information processing model over again. Of course, feedback can take many forms. It can be a nod by the instructor, the results of a written test, access to an appropriate menu screen, a verbal reply, etc. The designer applied Gagne's information processing model in the development of the learning activities.

To assist the learners in encoding the information, a variety of media was selected for the instruction. Anderson's (1983) methodology for the media selection process was followed and led the designer to employ terminals, overhead transparencies, hardcopy handouts and marker boards to aid in the learning process. The media gives the learners visual information to support the verbal information. Critical to this project was the use of IBM 8100 8775 terminals. Without practical experience using DISOSS, the learners would not have been able to encode all the information presented. The application of most of the concepts will occur when the learners work on-line at a terminal. Feedback is provided within each of the learning activities. A pre-instructional activity consisting of motivation, objectives and pre-test is reflected in the first learning activity in order to introduce DISOSS to the learners.

The motivational unit was designed specifically to assist the learners with encoding the new concept of working with an electronic mail package. The designer connected the activities that the secretaries engage in on a daily basis with the activities that can be performed using DISOSS. In this way, the learners have a frame of reference for applying the new concepts of an electronic mail package. The designer applied the information obtained through the needs analysis when designing the motivational device for the DISOSS instruction, taking into consideration that most learners will have no prior experience with an electronic mail package. A matrix is provided in Table 3 which reflects the group and sequence of objectives.

Table 3

DISOSS Instructional Strategy Matrix

Learning Activity	Content	Instructional Method	Media
1	Motivation Objectives	Brainstorming Lecture	Marker Board Handouts
2	Define DISOSS	Lecture/Discussion	Overhead/ Handouts
3	Access DISOSS	Lecture/Lab	8775 terminal access/ Handouts
	Review DISOSS	Lecture/Lab	8775 terminal access

Assessment System Specification

In order to determine the effectiveness of the instruction, the designer developed a pre-test to measure the learners' skills prior to training. This pre-test is conducted within the first learning activity. While no embedded tests were designed within the instruction, the feedback provided within each learning activity provides valuable, informal input for the trainer. Should any of the learners respond inappropriately to any of the questions posed by the instructor, ample opportunity during the learning activities is available for the trainer to clarify or review concepts. The feedback elicited from the instructor provides a form of progress check which will dictate which concepts require further discussion.

A post test, identical to the pre-test, was designed to be administered after training to demonstrate the effectiveness of training. It is anticipated that with such an assessment system, there will be a marked difference between the pre-test and post test scores, given that the majority of the target population is unfamiliar with electronic mail packages. An attitude questionnaire was also designed to measure the learners' reaction to the training.

Evaluation System Specification

To conduct the formative and summative evaluation of the project, the designer planned to analyze the data obtained through the entry level skills test, pre-test, post test, and attitude survey. Several one-on-one trials followed by two small group trials were planned to provide data for the formative evaluation. It was anticipated that revisions to the design would occur prior to the field trials in order to improve the instruction. It was planned that two field trials with representative samples from the target population would be conducted to collect relevant data for the formative evaluation.

The assessment system was designed to provide significant data for the summative evaluation. Three of Kirkpatrick's (1987) four levels of evaluation were to be measured to determine the training's effectiveness: reaction, learning and behavior. Certainly with such a design, the fourth level, results, could also be measured. The designer attempted to gain permission from American Express personnel to obtain useful information to determine whether or not the training impacted the organization as a whole, however, permission was denied. In other circumstances, the required data for measuring results could be obtained in order for the ultimate goal of instruction to be measured. The designer provided detail concerning the methodology behind measuring the level of results and how relevant data could be collected concerning the use of basic DISOSS functions. With trainees receiving instruction on the basic DISOSS functions, the organization could realize a number of benefits, impacting reduction in operating costs and increase in productivity.

Learning Transfer System Specification

According to Broad and Newstrom (1988), there are three key "partners" in the transfer-of-training process: the manager, trainee, and trainer. Each role is critical to ensure learning transfer. Broad and Newstrom cite each role's action steps before, during and after training, referring to these actions steps as "support actions" to achieve "transfer of training." They propose that a complete instructional design contains a complete plan for transfer management. Within the transfer management process, the instructional technologist must be prepared to encounter obstacles and must engage in a number of strategies to ensure that learning transfer takes place. One of the instructional technologist's responsibilities within this learning transfer system is to assist the trainee and the manager in "understanding" their critical roles in this process.

In an earlier article, Mary Broad (1982) discusses the results of a 1978 survey taken by HRD leaders in which they were asked to identify and rate the importance of actions management can take to support the transfer of training to the job. The survey was broken down into the following categories to assist the respondents in identifying actions: upper management involvement, pre-training preparation, support during training, job linkage, and follow-up. The results of the survey indicated that there was a significant difference in what the HRD leaders observed as actions taken by management to support the transfer of training and their rating of these actions in terms of their importance. For example, under the category of "job linkage," only 1 of 17 actions had been observed by most HRD leaders and 16 of these actions were rated as "important" by most leaders. Broad's study clearly focuses on the manager's role in the learning transfer system. The results of the survey highlights the need for management to become involved in the entire training process to ensure success.

Beaudin (1987) also cites strategies before, during and after training to enhance the transfer of learning. Through careful analysis, the instructional technologist can prepare for learning transfer by completely exploring the trainees' environment and needs as they relate to the instruction. The objectives and learning activities should be relevant to the trainees. Early on in this process, the instructional technologist must seek the commitment of management. During training, the participants must be involved by having numerous opportunities for practice and feedback. The instructional design should incorporate the trainees' real work. After training, the instructional design should continue by establishing a "buddy" system where participants can get support from each other. Also, management becomes extremely critical after training. If desired behaviors are rewarded by management, then learning transfer is reinforced.

Review and Selection of Existing Materials

The DISOSS User Handbook (1985) provided the foundation for the materials developed. During the selection of materials for training, the designer identified some required editing and updating since the materials had not been revised since 1985. The information regarding network support had to be revised since the help desk numbers had changed. American Express offices worldwide had increased since 1982 and the locations had to be reflected within the Office Systems Services client directory and DISOSS network structure.

Summary

In developing the design for this project, the designer attempted to reflect the consistency and balance of the DISOSS program in order to introduce this electronic mail package as a "user-friendly" tool to the learners. In the instructional task analysis, instructional objectives and entry behaviors identified, the design reflected the similarities of options available from one basic function to another. Throughout the development of the instructional objectives, the designer consulted Mager's work. The group and sequence objectives covered one through three of the instructional objectives developed. The scope of the project was limited in order to focus more clearly on each aspect of a complete instructional design. The learning activities relied heavily on Gagne's information processing model. The designer attempted to connect the new information being introduced with the learners' experience and knowledge in order to ensure that the learners encoded the information presented.

Within this chapter, the designer provided the assessment, evaluation and learning transfer systems which were planned for DISOSS instruction. A review of existing materials was conducted during this phase of the project to identify the information that was previously developed which required updating.

CHAPTER 4

DEVELOPMENT

Introduction

The designer developed meaningful learning activities to complement and reflect the instructional objectives and test items. Through this phase of the project, the information revealed in the analysis and design was incorporated into the development. In order to develop relevant and accurate media for the learning activities, the designer worked extensively with the DISOSS program using the IBM 8100 system 8775 terminal.

Learning Activity Development Scheme

Each learning activity follows an instructional strategy of information presentation, student participation, and feedback. Gagne's (1985) information processing processing model was consulted as well as Dick and Carey's (1985) format for this phase of the project. The designer first developed meaningful learning activities according to each of the identified objectives. The pre-instructional activity, incorporating the motivation for the entire unit, was developed last. Throughout the entire process, the SME was consulted.

Learning Activity Development

A pre-instructional activity was developed to present a pre-test, motivation and objectives. A detailed description of each learning activity for DISOSS instruction, encompassing objectives one through three; define DISOSS, access DISOSS, review basic DISOSS functions, may be found in Appendix H of this document.

The pre-instructional activity, one component of learning activity 1, was developed to motivate the learners, involving them in a brainstorming activity. During training the trainer would elicit from the learners their various job responsibilities and would record each responsibility cited on one side of the marker board. The trainer would then record the various communication channels the learners currently use to complete their job responsibilities, giving the phone as one example to start off this portion of the brainstorming activity. The trainer would use a different color marker and record all communication channels identified by the learners on the other side of the marker board. After all learners have had an opportunity to participate in the brainstorming activity, it was planned that the trainer would introduce, in a lecture format, that DISOSS is another communication channel that the learners could use to complete several previously identified job responsibilities. The trainer would then be able to draw connections between the learners' job responsibilities and the DISOSS functions. This pre-instructional activity was developed to gain the attention of the learners and stimulate recall of prior experience in order to make the connection between tasks they perform currently and tasks that DISOSS will assist them in performing. The trainer would then introduce the objectives of the instruction. All materials developed for the instruction, including a simulation of the brainstorming activity using the marker board, may be found in Appendix I of this document.

Originally, the designer planned on using flip charts to display relevant visuals during learning activity 2. Unfortunately, the computer training room on the 42nd floor of the World Financial Center was not originally designed as a training room. The designer had to work within the limitations of this space. After some experimentation, the designer discovered that certain areas of the training room had an obstructed view and learners in the back of the training room would be unable to see the flip chart visuals. As a result, the designer selected an overhead projector with transparencies. The overhead projector image could be raised to allow all learners to see the visuals. The transparencies matched the handouts provided to the learners and it was planned that the trainer would be able to highlight relevant information as it was presented by drawing on the transparencies. As each handout was presented, the trainer would use the overhead projector to present and highlight relevant items on each visual as it was discussed. The handouts (hardcopy of transparencies) would become pages within the DISOSS Manual, numbered to correspond with the grouped and sequenced objectives. This media was selected so the learners would have permanent reference material when they returned to their offices. The use of the transparencies provided an exact replica of the hardcopy in the learners' hands.

Little information presentation in the form of lecture was necessary in learning activity 3 of this instruction since the learners would, for the first time, have the opportunity to access DISOSS on their terminals. In the development phase for learning activity 3, the designer worked extensively on the IBM 8100 system's 8775 terminal. Every subtask associated with accessing DISOSS was performed on-line to better plan the instruction during this learning activity. The designer would have preferred to have an 8775 terminal connected to a projector for this portion of instruction to allow learners to see the appropriate screens and DISOSS menus as they would be discussed. However, budgetary considerations prevented this. The designer, therefore, planned for a hardcopy display of the appropriate screens. This entailed following the instructional design and accessing the relevant screens, performing a screen capture within the DISOSS program and printing each display. This hardcopy was then made into transparencies for the overhead projector. The hardcopy would serve as permanent reference materials for the learners and would be incorporated into a DISOSS manual. In developing the transparencies displaying the DISOSS Network, the designer worked closely with a subject matter expert who had extensive experience as a project manager for the IBM 8100 DISOSS/DOSF system. In this learning activity, the learners would be able to apply the concepts and skills by working with the DISOSS program on-line using the 8775 terminals.

Throughout instruction, the designer provided for numerous opportunities for learner feedback where the trainer would ask questions and elicit responses from the learners. In this way, the trainer would be able to clarify points and concepts, depending upon the learners' response. To measure the instruction's effectiveness, the designer developed an entry level test, pre-test, post test, and attitude survey. These measurement instruments were developed during this phase of the project and may be found in Appendix J. These instruments were designed as paper and pencil tests with portions of the tests requiring the learners to access the IBM 8100 system's 8775 terminals.

Learning Activity Review

A "trial run" of the DISOSS instruction was conducted with a subject matter expert to remove the obvious errors and problems within the instruction. The review session with the SME lasted two hours. Within the original design, the pre-test was to be administered after the preinstructional activity. The subject matter expert pointed out that information is provided within the pre-instructional activity that relates directly to instruction. The data collected from the pre-test, would therefore, be inaccurate had the trainer administered the pre-test in the planned sequence. As a result, the trainer administered the pre-test first, followed by the preinstructional activity which included the motivation for the instruction, the brainstorming activity and the objectives of the unit.

The SME did not take the pre-test or post test, but did review the instructional materials, objectives and test items and did participate as a learner. The SME suggested that an example be provided under job tasks for the brainstorming activity to give the learners an idea of the types of responses expected.

Some key terminology was identified by the SME as being inaccurate. Within the design, DISOSS was originally defined as Distributed Office System Support and the SME corrected this to Distributed Office Support System. However, the integrity of the functions was not affected by this error and the appropriate materials were revised. Also identified was the term "Network ID" -- the original materials referred to the users' "DISOSS Name" and the SME brought this to the designer's attention. The text within the appropriate materials was corrected prior to the remaining one-on-one evaluations.

The SME provided feedback during the development of this material to ensure that it reflected an accurate picture of the basic DISOSS connection and programs resident on the host in Phoenix. He requested that a note be provided on the appropriate visuals to state "Note: This is a visual representation and does not reflect technically accurate host connections." The designer wanted to provide useful information to the learners and a technically accurate depiction of the DISOSS Network would have confused learners. The subject matter expert agreed, but asked that this note be included as a provision to satisfy more technically oriented people. After reviewing all the materials, the SME agreed that the designer was ready to proceed with the one-on-one trials.

Materials for Evaluation Produced

The materials were made ready for the one-on-one trials. Sufficient copies were made for the trainer and four participants. The designer did not make transparencies since revisions were anticipated. The first scheduled one-on-one trial was planned for April 29th.

Summary

All material and media were developed in this phase of the project. The designer applied Gagne's information processing model in the development of meaningful learning activities for DISOSS instruction, covering the three objectives; define DISOSS, access DISOSS and review DISOSS. The IBM 8100 system's 8775 terminals were determined as critical for relevant instruction and were used during the development of appropriate visuals for the project. The designer also developed test instruments to measure the instruction's effectiveness.

CHAPTER 5

IMPLEMENTATION

Introduction

The trainer conducted DISOSS instruction, covering objectives one through three. Through "hands-on" training with devices linked to DISOSS, the trainees applied the concepts and terminology of DISOSS by accessing the IBM 8100 8775 terminal. Lessons 1 - 3 of the 9-Lesson plan were implemented. The on-line portion of this training was critical for the successful implementation of this program. Instructional materials and media (overhead projector, transparencies, marker board, handouts and reference guide) were presented during relevant portions of the session. Evaluation instruments were administered during appropriate segments of the training.

Materials for Implementation Reproduced

In preparation for the two training sessions conducted, 21 sets of materials were produced in "market ready" form. The materials may be found in Appendix I. Twenty-one sets of measurement instruments were also prepared in "market ready" form and may be found in Appendix J.

Instructional Delivery

The trainer followed the detailed plan described in the instructional strategy found in Appendix H. The information presentation sections reflect the "script" used for the lecture portions of the instruction. The lesson plan was delivered twice. The sessions consisted of learners from the target population, with both groups having the required entry behaviors.

Table 4 reflects the schedule followed for the instructional delivery of DISOSS Functions.

Table 4

Instructional Delivery of DISOSS Functions

Evaluation	Date	Number of Learners	Comments
Training Session	5/11	15	Received DOSF training 5/8-10 from another instructor. Conducted at 770 Broadway.
Training Session	5/12	6	NY OSS DOSF class ready for DISOSS training. Conducted at World Financial Center.

The first training session, on May 11th, was conducted off-site at American Express' Eastern Regional Operating Center located at 770 Broadway. Special permission was obtained to come in and train specifically on DISOSS immediately following the three days of DOSF instruction provided by the in-house trainer at EROC. The DISOSS instruction covered within this project took three hours. The class consisted of 15 learners. On May 3rd the designer visited the training facility to ensure that the DISOSS training could be delivered as planned. The training room accommodated 16 terminals. A large marker board was located at one side of the room directly facing the terminals. The designer arranged for an overhead projector to be set up prior to the training session on the 11th. All equipment was tested prior to this date to ensure the training at this center ran smoothly.

On May 12th training was conducted at the World Financial Center in the computer training room. This session lasted two hours and fifty minutes. The six participants for this session had previously received DOSF training from another instructor within Office Systems Services. As requested by the designer, the instructor administered the entry skills test to this group on the final day of DOSF instruction (May 11th). A summary of the instructional delivery, reflecting planned time increments for each objective, is outlined in Table 5. As noted above, actual delivery on May 11th took thirty-five minutes longer than anticipated and actual delivery on May 12th took twenty-five minutes longer than anticipated. This was due, in part, to the pre-instructional activity where the learners participated in a brainstorming session to discuss their jobs and responsibilities.

All 21 students were from the target population consisting of secretaries and administrative assistants employed by American Express. The 15 participants from the training session conducted on May 11th worked at the Eastern Regional Operating Center located at 770 Broadway. While NY OSS does not officially support this group, arrangements are frequently made to address training needs. It should be noted that these two groups did not participate in the learner analysis when data was gathered to determine learner needs. However, these two groups do fit within the target population profile.

Table 5

Summary of Planned Instructional Delivery

Learning Activity	Learning Time	Topics Covered
Lesson 1	45 min.	
Pre-test	20 min.	Administer Test
Preinstructional Activity	15 min.	Brainstorming activity to elicit job tasks & comm. channels. Connect to DISOSS.
Motivation		Relate to trainees jobs.
Objectives	10 min.	Define DISOSS, Access DISOSS, Review Functions
Break	5 min.	
Lesson 2	40 min.	
Objectives: 1.1	5 min.	Define DISOSS
1.2	5 min.	Describe Functions (briefly)
1.3	5 min.	Explain DISOSS Network
1.4	10 min.	Demonstrate use of OSS Client Directory
1.5	5 min.	Identify Network Support
1.6	5 min.	Define Naming Convention
1.7	5 min.	Explain purpose of DISOSS Classes & Retention Periods
Break	10 min.	
Lesson 3	60 min.	
Objectives: 2.1	5 min.	Access DISOSS
2.2	10 min.	Access Help, Read Help Text
2.3	10 min.	Identify purpose/procedure for access to Help in DISOSS
2.4	2 min.	Exit Help Function
3.1	8 min.	Read Main Menu
3.2	5 min.	Identify procedure for accessing each function
Post test/ Attitude Survey	20 min.	Administer post test and attitude survey

The two groups of learners completed the entire instruction as planned. The brainstorming session lasted longer than anticipated. The training class on May 11th took fifteen minutes more on this activity and the class on May 12th took ten minutes longer than planned. The two groups were quite dynamic and enjoyed the interaction in speaking about their jobs and responsibilities.

Data Collection

A number of instruments were developed to collect data for the summative evaluation. An entry behavior test, pre-test, post test, and attitude survey were designed to allow the instructional technologist to collect relevant data to determine the project's effectiveness. An entry level test was administered prior to the actual training session to ensure that the target population was prepared for this next phase of training on the IBM 8100 system. A pre-test was administered after the pre-instructional activity. At the conclusion of the training sessions, in lesson 3, an identical post test was administered to compare the results against the instructional goal, evaluate the effectiveness of the training and provide data for future action steps and recommendations. An attitude survey was also administered to measure the learners' reaction to the instruction.

Summary

Two training sessions were conducted. The selected media, materials and instructional delivery for DISOSS instruction were produced in "market ready" form in preparation for delivery. A combination of lecture, discussion, marker board, overhead transparencies and printed material were provided during instruction to present information and concepts. Learners accessed IBM 8100 system 8775 terminals to apply the necessary skills involved in using DISOSS. A schedule of instructional events was included with planned time increments for each segment, detailing the evolution of this implementation phase. Both training sessions lasted longer than planned. Data collection instruments were identified for the summative evaluation process.

CHAPTER 6

EVALUATION

Introduction

To determine the instruction's effectiveness, formative and summative evaluations were conducted. It is within the evaluation phase of the project that all the data is analyzed in order for the instructional technologist to draw conclusions and make appropriate recommendations for improvement of instruction. This chapter describes the formative and summative evaluation process, taking the reader through the three phases of the formative evaluation and concluding with the analysis of data collected.

Formative Evaluation

The designer consulted Gagne's (1985) methodology for performing a complete formative evaluation. This process consists of three phases; one-on-one, small group and field trials. Two of the three phases of the formative evaluation process were conducted. A profile of the learners and a description of their performance is provided for each of these phases. The data collected from the evaluations was analyzed and appropriate revisions made to the DISOSS instruction.

A schedule of events for the formative evaluation process is provided in Table 6. One-on-one and small group trials were

Table 6

Formative Evaluation for DISOSS Instruction

Formative Evaluation	Date	Number of Learners	Comments
One-on-One	4/30	1	Student 1. "Avg" Learner - experience with word processor
One-on-One	4/29	1	Student 2. "Slow Learner" - knew nothing about computers/ technology/word processors
One-on-One	4/29	1	Student 3. "Advanced Learner" - highly computer oriented
Small Group	5/2	3	Secretaries at Amex
Small Group	5/4	2	Secretaries at Amex

conducted in the training room on the 42nd floor of the World Financial Center.

One-on-One

A total of three one-on-one trials were conducted in order to identify any deficiencies, problems or errors within the instruction. Working with learners individually provided the advantage of focused observation on the part of the designer. She was able to see the reaction to each of the learning activities as each was presented. During the course of these evaluations, the designer took notes as the instruction proceeded and debriefed each learner at the conclusion of the one-on-one trial, referring to the notes. The one-on-one trials lasted approximately three and one-half hours each. The designer elicited the learner's reaction to the DISOSS instruction during the debriefing session. Trials for students 2 and 3 were held on April 29th and student 1's trial was held on April 30th.

It is desirable to use learners who match as closely as possible the target population's characteristics; however, the designer had difficulty obtaining learners representing this base. The one-on-one evaluations were conducted with learners having no exposure to the IBM 8100 System. A brief "mini lesson" containing the required entry behaviors was provided to enable the learners to sign on, use the keyboard and apply the basic concepts of DOSF (Distributed Office Support Facility). This entry level skills lesson may be found in Appendix K. The DOSF lesson took approximately one-half hour to complete. The instruction was self-paced.

- Background of Learners

  Student 2 had no prior experience with computers or word processing systems. He did not work for American Express. This individual was a 28 year-old law student. Student 1 was employed at American Express as a secretary and had been working on the Wang System for two and one-half years, but had no prior experience with any electronic mail packages. She was 21 years of age. Student 3 was categorized as an advanced learner due to his experience in computers (he had worked with a variety of software packages for three years) and understood the concept of a network. Student 3 was a 24 year-old financial analyst employed at American Express for the last two and one-half years. None of the learners had any exposure to DOSF.

- Instructional Delivery

The one-on-one trials were conducted on the 42nd floor of the World Financial Center in the OSS training room. The designer conducted the training. A brief "mini lesson" on the entry behaviors was conducted prior to training (Appendix K). Student 2 took more time than the other two learners in the one-on-one trials to complete the entry skills lesson on DOSF. He was unfamiliar with the keyboard. Student 2 also asked questions about the difference between a working store and a permanent store within DOSF. The designer clarified the difference, but this was not essential for the basic DISOSS instruction. Students 1 and 3 were able to work independently and completed the entry skills lesson with no problem. As indicated in the DISOSS instructional delivery (found in Appendix H), the information was presented with a combination of lecture, handouts, overheads (identical to the handouts) and "on-line access" to the IBM 8100 System 8775 terminals. The learner sat in front of one of the terminals in the room while the designer presented the information.

The brainstorming session designed for the pre-instructional activity was not as dynamic as planned due to the fact that the design is based on the interaction of the learners in providing job responsibilities and communication channels. As a result, the one-on-one trials during this activity were a bit awkward. The learners were providing their input in a "vacuum" since there were no other learners present to react to or interact with. During this portion of the pre-instructional activity, the trainer explained the intent of the activity and each learner provided as much input as possible considering the limitations.

- Results

The pre-test/post test results of the one-on-one trials are included in Appendix L. In administering the pre-test, the designer informed the learners that this was simply a measurement of the "before picture" and that after the training they would take this same test and hopefully understand all the concepts and skills. As a result, the designer believed the data was skewed because the learners proceeded to "skip" many of the questions. It seems that the knowledge that they would be taking the test again influenced the way they took the pre-test.

It was anticipated that the learners would be able to answer a certain number of questions within the pre-test based on the materials provided which were designed to be self-explanatory. As predicted, for objectives 1.3 (Recognize DISOSS Network Structure), 1.4 (Use the Office Systems Services Client Directory) and 1.7 (Identify DISOSS Classes and Retention Periods), the learners performed well.

The learners improved considerably on the post test. After de-briefing student 1 and student 2, the designer discovered that they failed to respond to certain questions. For example, student 1 correctly identified test item 27 in the pre-test, but failed to respond to the same test item in the post test. Student 2 did not completely respond to test items 21, 26 and 29 because the explanation was "skipped over." All the learners indicated that they understood the questions. Students 1 and 2 explained that they did not read the questions completely or that they had simply skipped an item.

- One-on-One Feedback

Informal, open-ended interviews were conducted at the conclusion of each one-on-one trial. This instrument was developed to go beyond the attitude survey to obtain more specific feedback from the trainees during the one-on-one and small group trials. After instruction, the trainer debriefed the trainees, asking questions related to the trainees' performance during the instruction. The trainer recorded their comments on the actual instruments cited during the interview process for further analysis. Some of the data collected from these interviews proved valuable in the revision process.

During the actual instruction, careful notes were taken when the learners had questions or problems. In examining page 5 of the DISOSS materials, student 2 became confused with All-In-One and the VAX system. The package is All-In-One and the system used is VAX; however, the designer discovered she was confusing the learner by using the term "VAX" in the visual for page 5 while using the term "All-In-One" for the visual for page 4. "All-In-One" is also referred to in the Office System Client Directory handout. The designer realized that she should be consistent with the terms so the learners do not become confused. For the subsequent two one-on-one evaluations, the designer changed the visual so that the terminology of "All-In-One" would be consistent throughout the materials.

The learners all stated that they found it difficult to answer the questions regarding the Office System Services Client Directory because of the size of the document. It contains all the users connected to the DISOSS Network. They found it time-consuming to sift through this large document to alphabetically look up the users identified. As a result, for the small group and field trials, the designer modified the OSS Client Directory for the pre-test/post test and provided the learners with a complete directory at the conclusion of the instruction.

Small Group

The small group evaluation provides the designer an opportunity to further measure the instruction's effectiveness with a small group of participants. Limiting the size of the group enables the designer to focus on the learners' performance and reaction in a setting similar to the actual setting for which the instruction was originally designed. The designer also has the opportunity to test the changes and revisions made to the instruction subsequent to the one-on-one trials.

- Background of Learners

  Secretaries at American Express closely representing the target population were identified. As with the one-on-one evaluations, these learners had no exposure to DOSF and a mini lesson was conducted prior to training so the learners would have the entry behaviors to complete this portion of DISOSS instruction. These five learners (split into a group of 3 and a group of 2) were experienced with the Wang word processing system and had no difficulty in signing onto the IBM 8100 system and applying the basic concepts of DOSF.

- Instructional Delivery

  The small group trials were held in the 42nd floor training room at American Express. The first was conducted on May 2nd with three learners from the target population. The second small group trial was conducted on May 4th with two learners from the target population. These trials lasted approximately four hours each. The brainstorming activity was much more dynamic with the small group trials.

- Results

  The pre-test/post test results are included in Appendix L. The learners in the small group evaluations performed better on the pre-test than the one-on-one trials. The designer asked the learners to try to answer the questions on the pre-test, but indicated that they shouldn't feel frustrated if they do not know "the answer" since it would be covered in the instruction. Consequently, some of the learners actually went back to questions they had previously "skipped" since they were able to make inferences based on the materials provided in later questions. Learner two had correct answers on information not available in the materials. The designer later asked this learner how she knew two of the four functions of DISOSS. She indicated that she had worked on a Digital Equipment Corporation system where sending and receiving messages/documents was part of the package and she thought it only logical that DISOSS would have the same or similar functions.

The learners performed well on the post test, however certain problem areas emerged. For test item 2, two learners did not correctly identify the DISOSS Network when asked to complete the statement: "DISOSS allows me to communicate to other users linked to the ______ ______________ ." They both responded with "mainframe computer" which, in a sense, is correct. However, for the field trials the designer attempted to correct this problem by revising the information presentation to emphasize the DISOSS Network as "the single feature responsible for allowing us to communicate to other users. Without the DISOSS Network we would be unable to talk to the world."

Also, two of the five learners did not use the terminology defined as "correct" for test item 4. The correct response: "Search Filed Documents OR Look for Filed Documents OR Retrieve Filed Documents." Instead, one student said "Get Document from the Host Library" and the other student said "Find Filed Documents." In retrospect, the designer believed these two students were correct and that the test items should be adjusted to be more flexible with "acceptable" responses.

Test item 37 was another problem. The question is open-ended and, therefore, difficult to score since the designer was asking students to respond in their own words. As a result, two of the five students responded to the question by stating "to get help" -- basically answering the question with the question. The designer decided to wait until the field trials to see if this item still presented problems.

- Feedback

As with the one-on-one evaluations, the feedback was "informal" and consisted of a debriefing session where the designer elicited responses from the learners. The small group evaluations were more dynamic than the one-on-one trials. The learners enjoyed the brainstorming activity and interacted with each other in discussing their jobs and the tasks they were expected to do. All of the learners indicated that the visuals were helpful in clarifying the concepts.

Though not revealed through the test results, one of the learners mentioned that a question concerning the Document Classes and Retention Periods (objective 1.7) was confusing since more than one answer was correct (test item 27). The designer made a note of this and revised the test item to indicate "Please note, there is more than one correct response here." When this issue was raised the other two learners in the group concurred and commented that they couldn't understand why the chart went into so much detail concerning the document class. The designer reviewed their comments later and concluded that the handout (page 8) could be confusing at first glance. The information presentation was revised accordingly for the field trials to reflect the following:

> Objective 1.7; Information Presentation:
> In reviewing page 8, the Document Classes and Retention Periods handout, please keep in mind that this is a reference tool -- a guide. The document class you choose refers to the size of the document and the length of time you want to keep it in the DISOSS Host Library. You may, for example, have a one-page document that you wanted to keep in the DISOSS Host Library for eight months. Looking at the handout, you could file this document as MEM1Y or LET1Y or DOC1Y. Any one of these document classes fits the size of the document and covers you for the eight-month requirement.

Pilot Test

The pilot test within the formative evaluation process serves as a "dress rehearsal" for instruction. It is the designer's opportunity to measure training effectiveness by conducting a final trial which simulates as closely as possible the actual training setting. A full class of participants from the target population undergo the entire instruction. The pilot test aids the designer in determining whether or not the material and media selected actually work within the instructional design. This final phase of the formative evaluation process was not conducted for DISOSS instruction.

Summative Evaluation

The detailed results of the entry behaviors test, pre-test, post test and attitude questionnaire for the two training sessions may be found in Appendix M. A summary of the score results is provided in Table 7.

Kirkpatrick (1987) describes four levels of evaluation which measure training effectiveness: reaction, learning, behavior, and results. Each is discussed within the summative evaluation process.

Reaction

The attitude survey was developed to measure the learners' reaction to the instruction -- to gain information about how they actually felt about the training session. A copy of this questionnaire may be found in Appendix J. This instrument was designed to elicit feedback on the motivational device, objectives, materials, presentation, practice items and test items. As indicated in Table 7 (detail on the attitude

Table 7

DISOSS TEST RESULTS

	ENTRY BEHAVIOR		PRE-TEST		POST TEST		ATTITUDE	
Student	Raw Score	Percent Correct	Raw Score	Percent Correct	Raw Score	Percent Correct	Raw Score	Rating
1	16	80.%	16	36.%	39	89.%	56	80%
2	12	60.%	8	18.%	22	50.%	41	59%
3	18	90.%	18	41.%	44	100.%	66	94%
4	19	95.%	14	32.%	44	100.%	60	86%
5	18	90.%	15	34.%	43	98.%	57	81%
6	18	90.%	17	39.%	43	98.%	67	96%
7	19	95.%	15	34.%	44	100.%	64	91%
8	18	90.%	13	30.%	42	95.%	67	96%
9	19	95.%	18	41.%	44	100.%	63	90%
10	18	90.%	12	27.%	43	98.%	60	86%
11	19	95.%	14	32.%	44	100.%	67	96%
12	19	95.%	14	32.%	43	98.%	68	97%
13	18	90.%	28	64.%	44	100.%	70	100%
14	20	100.%	15	34.%	43	98.%	65	93%
15	18	90.%	13	30.%	42	95.%	62	89%
16	18	90.%	14	32.%	40	91.%	61	87%
17	19	95.%	15	34.%	42	95.%	61	87%
18	18	90.%	14	32.%	42	95.%	70	100%
19	17	85.%	14	32.%	42	95.%	69	99%
20	17	85.%	13	30.%	42	95.%	64	91%
21	19	95.%	16	36.%	42	95.%	63	90%
Mean	17.95	89.76%	15.05	34.29%	41.62	94.59%		
Median	18	90.%	14	32.%	43	98.%		
Mode	18	90.%	14	32.%	42	95.%		
Standard Deviation	1.59	7.94%	3.58	8.18%	4.57	10.39%		

questionnaire results is provided in Appendix M), the learners reacted positively to the instruction. The average rating was 90 percent. Based on observation, the learners particularly enjoyed the brainstorming activity where they had an opportunity to discuss their jobs and responsibilities, identifying those communication channels they use to perform their jobs. Areas identified for improvement were also noted with recommendations for further revisions. The pre-test/post test was cited by the learners as one specific area where instruction could be improved. The comments supported this questionnaire item which received a rating of 76 percent.

To effectively measure the attitude questionnaire results, those items negatively phrased were inverted, i.e., if a student responded by circling 2 for item 5: "I would have preferred more practice within the lessons," then this item was assigned a 6 (the opposite of the scale so responses would be consistent).

While the learners' reaction to the training was generally positive, the area the learners felt needed the most improvement was the post test questions. Item 7, "The questions on the post test were clear," received the lowest score on the survey, 76 percent. Some of the learners did not provide any response at all to the question "What do you think would improve the lesson most?" A summary of the comments is provided below.

- Too many questions. Some questions redundant.
- Make it shorter.
- Wanted to learn how to send and get messages. Should do more and not talk about it.
- Some of the questions were too easy. Should be more difficult.

Based on the learners' comments, the designer inferred that perhaps they were not so concerned with whether or not the questions were clear (item 7: "The questions on the post test were clear"), but that there were actually too many of them. To improve this instruction and incorporate the learners reaction, the designer could re-examine the test items, clarify the unclear items and cut down on the number without sacrificing the critical objectives. This may entail going all the way back to the original design and task analysis to identify, for example, if it is important for the students to be able to describe the functions in DISOSS or if it is more important for the students to be able to perform the functions in DISOSS. Perhaps a re-focus on the psychomotor skills as opposed to the cognitive skills would address the learners' reactions and improve the instruction.

Learning

This next level of evaluation measures whether or not learners have mastered the skills, concepts, rules and principles presented in the instruction. The entry behaviors test was designed to determine whether or not trainees demonstrated the prerequisites of Lessons 1 - 3 for DISOSS instruction. This test measured the critical skill of signing onto the IBM 8100 system, demonstration of encoding basic DOSF (Distributed Office Support Facility) terminology and using the IBM 8100 8775 keyboard. This test was administered "on-line" with trainees typing responses to questions within a document they were asked to retrieve. They then stored this document under the training operator's ID and submitted it to the instructor.

The students in the two training sessions performed well on the entry behaviors test with an average of 89 percent correct. A detailed copy of the test results may be found in Appendix M. The designer would have expected the students to perform better than this average score indicates; however, a few problems with some of the test items were identified.

Based on the results of the post test, the designer believed the entry behaviors test had problems inherent in the questions and not with the students' ability or cognitive skills. Test items 3.1, 3.2, 3.3, 3.4 ask the students to list the steps in signing onto the IBM 8100 System. At the point in time they are answering this question, all the students had already signed onto the system (they had actually demonstrated that they know how to perform test items 3.1, 3.2, 3.3, 3.4). Approximately 1/4 of the students had problems with two of the three items. They had skipped steps in signing on and without the ability to "test" the steps they were listing by actually signing on at the time of the questions, these test items are invalid. The designer could have eliminated this problem by inserting test item 1 as "Sign onto the IBM 8100 System" and completely doing away with test items 3.1 - 3.4.

The pre-test/post test was designed to be identical to provide an accurate "before and after picture" of the learners' knowledge and skills. This instrument was designed to measure learning. A copy of the pre-test/post test may be found in Appendix J. Questions related to the concepts of DISOSS measure whether or not the learners encoded the cognitive knowledge of the definition of DISOSS, the DISOSS Network structure, identification of Network Support, and DISOSS functions to verify that learning occurred.

This evaluation instrument is a paper and pencil test with "on-line" access required for certain test items. The learners recorded their answers on the test, but in certain sections of the test they accessed functions in DISOSS to complete questions. To measure whether or not learners successfully performed the appropriate skills, a checklist was incorporated in the pre-test/post test instrument. The learners' responses "on-line" and through their written responses determined whether or not they mastered the necessary skills in successfully accessing DISOSS, the HELP function, and applying the concepts of the DISOSS naming conventions and document classes.

The pre-test/post test was designed in two parts. It was anticipated that the learners would perform well on part II of this test since the questions relate to handouts which were designed to be self-explanatory. So that pre-test/post test data was not skewed, the separate parts of the tests enabled the instructional technologist to measure training effectiveness more accurately. As the pre-test results table in Appendix M illustrates, learners did indeed perform well on objectives 1.3, 1.4 and 1.7.

The trainer's version and the learner's version of the pre-test/post test differ in terms of the numbering system. The score results were illustrated by objective and the test items were re-numbered on the trainer's version to accommodate this.

Also, to better measure learning, the test items were purposely "mixed up" on the learner's version where the trainer's version is in the precise order followed in the instructional strategy of DISOSS training.

The pre-test scores for the training sessions were consistent with those of the one-on-one and small group evaluations. A detailed copy of the test results may be found in Appendix M. The average score was 34 percent. Some of the students took more time in completing the pre-test. For example, a number of students went back to part I of the pre-test and were able to determine what their Network ID was based on their work with the OSS Client Directory. They made similar inferences with other test items by looking at the materials supplied in part II and going back to apply what they learned to part I. Others simply completed the pre-test without returning to part I.

The average post test score for the training sessions was 95 percent. Six students had perfect scores. One student did very poorly. Student two's performance throughout the instruction was consistently poor. Tracing back student two's entry behaviors test and pre-test scores confirms a problem. During the "on-line" portion of the post test, the student did not even sign onto the IBM 8100 System. The designer was unsure of what the problem was. There was no opportunity to follow-up with this person individually. The designer later discovered that this individual resigned from the company one week later.

Although the designer revised the information presentation to address the problem with test item 2, learners in the two training sessions still confused DISOSS Network with mainframe computer. This may suggest a reexamination of the test item itself. Perhaps to correct this error, the designer will need to rewrite this test item to more clearly target the DISOSS Network (only 76 percent of the students responded correctly to this item).

A problem with test item 37 surfaced again (the small group evaluations revealed there was a problem with this item). Only 67 percent of the students responded correctly to this open-ended question which asked them: "In your own words, describe the purpose of accessing the Help Function in DISOSS." Again, a re-write of the question to assist the learners in being able to more clearly define the purpose of accessing the help function would eliminate this problem. Perhaps a multiple choice item would be in order here.

Behavior

Kirkpatrick indicates that the next level of evaluation, behavior, refers to job performance and as such is valid only in terms of learner performance outside of the training setting. An instructional technologist can measure behavior in a number of ways. Input from the trainee's supervisor, observation of the trainee during performance of the specific skill, and follow-up "on-the-job" evaluation could all be effective instruments to measure behavior.

In order to measure behavior for DISOSS instruction, a "before picture" of present performance would have to be "taken" followed by an "after picture." One method that could have been conducted is the careful tracking of help desk calls prior to instruction and subsequent to instruction. This would have served as an indicator concerning behavior change. Unfortunately, the support system at OSS was not automated (it is currently being fully automated) and accurate tracking of help desk calls was impossible. If the designer obtained reliable data per individual learner prior to and subsequent to training, then behavior change could have been measured. Hopefully, as a result of training, the number of calls per individual would have been significantly reduced. However, as noted, this would only be an indicator for the designer since there would be no way to concretely demonstrate the reason for the reduction in help desk calls regarding DISOSS instruction was a direct result of training. For this project, behavior was not measured. The designer encountered time constraints which prohibited the measurement of this level of evaluation.

Results

According to Kirkpatrick, results is the most difficult level of evaluation to measure. Did the instruction impact the organization positively? An affirmative answer to this question is the instructional technologist's ultimate goal. Training attempts to effect a positive change in employee attitude, performance and/or knowledge. Depending upon the instruction, the designer may have more of a challenge in demonstrating the instruction's impact on the organization. "Soft skills" training like assertiveness training, stress management and customer service are more difficult in terms of isolating the variables which concretely demonstrate impact on the organization.

In the case of DISOSS instruction, results could have been measured by clearly determining the criteria on which results would be measured prior to actual instruction. Subsequent to training, this same criteria would be measured again to determine if the instruction positively impacted the organization. Criteria to determine the impact of DISOSS instruction could be improved productivity, reduction in cost, improved attitude toward more mundane tasks such as filing. The "before picture" and "after picture" is essential for effectively measuring behavior, and results measurement requires the same procedure to be truly valid and reliable.

Learning Transfer

In order for any organization to realize a return on investment for the training of its employees, the instructional technologist requires the commitment of two other "partners" within what Broad and Newstrom (1988) term the "Transfer Management" process; the trainee and manager. While the trainee has always been considered critical, the manager has been in the background for some time, as far as training is concerned. The instructional technologist is playing an increasingly important role in educating management regarding this key role as "partner" within the training experience. As Broad's survey of HRD leaders revealed, manager's support and commitment was perceived as essential, but not always observed.

In the last five years this designer has been actively involved in the training field as a trainee and, in the last year, as a trainer, she has never undergone any evaluation that measured more than Kirkpatrick's first level of evaluation; reaction. The designer believes this is due, to a large extent, to management's commitment or lack thereof. In order for learning transfer to occur, all three partners must be actively involved in the training process. As the training specialist, it is incumbent for the instructional technologist to assist the other two partners in fulfilling their roles.

Broad cites a number of actions management can undertake to support transfer of training. However, this is not to say that support actions on the part of the trainer and trainee are not important. Yet Broad states that "the desired results of training are generally achieved only in those situations in which management clearly demonstrates consistent support for the transfer of that training to the job." Management can participate in the training session, lighten trainees' workload to allow them to concentrate on learning new skills and knowledge, relate the training to the real work environment, reward desired behaviors, incorporate the objectives of training within the employee review process, provide baseline performance data to compare to performance following training, assign trainees to projects that require the application of new skills and concepts learned in training, etc.

For DISOSS instruction, the designer implemented some of the strategies cited by Broad, Newstrom and Beaudin. The pre-instructional activity was designed to make a direct connection between the tasks the participants engage in on a daily basis and those functions of DISOSS that will assist the participants in accomplishing their daily tasks. During the design and development phases of this project, the designer incorporated the feedback and observations obtained through the analysis to ensure the objectives of the instruction were relevant to the learners. The instructional strategy for DISOSS also provided for numerous opportunities for participant practice and feedback.

While the designer was unable to observe the participants after training, the monitoring of the help desk calls received after training would provide an indication of whether learning transfer did take place. This type of data would need to be obtained over a period of time, however, to be valid. Within Office Systems Services, the designer had no direct control over the support system but did make a recommendation for the improvement of the help desk call tracking. OSS is in the process of automating the entire support function, including help desk call tracking, to improve the services OSS provides its clients and to improve the method in which relevant data is obtained. A relational data base is being developed to include pertinent client information and match up problems/questions with each client. Once in place, the designer can better track the types of calls received and determine whether or not learning transfer has taken place.

With all three "partners" in training working together, realizing a return on investment is possible. Merlo (1988) describes the basics of calculating ROI, it "equals benefits (expressed in dollars) minus costs. Divide the difference by the costs; then multiply the resulting value by 100 to express the value as a percent." While estimating ROI may seem to be an obvious answer for training technologists to demonstrate worth of a given training program, it has not always been the standard means of measuring training. This designer's experience has been limited to one organization, however, this organization is slowly moving toward this means of measuring training's effectiveness.

Had the designer gained permission for obtaining the necessary data, determining ROI for DISOSS instruction could have been achieved. The following strategy was not implemented, however, it is one method that could have been employed for this project. The designer would have started by looking at those elements affecting the organization where DISOSS instruction would have a positive impact. This would be possible since departments within American Express collect operational cost information.

Results of instruction could be measured by analyzing available data concerning the operational costs incurred by the organization. By examining this data before and after training, the trainer could demonstrate that the DISOSS instruction actually impacted the organization. As described by Phillips (1987), the training professional would first develop a cost classification system where the breakdown would include:

- Analysis Costs
  Salaries for professionals involved in the preparation of a Needs Analysis, Task/Job Analysis, Learner Analysis and Instructional Design.
- Development Costs
  Those costs associated with the actual development of the Instructional System Design, including the Instructional Strategy, development of materials and visual aids.
- Delivery Costs
  Expenses incurred for the delivery of instruction, including "take-away" materials for the trainees, classroom expenses, equipment rentals, trainers' salaries.
- Evaluation Costs
  All costs associated with the analysis of the implementation, including data collection, report generation, pilot testing.

This breakdown of costs associated with this project is found in Appendix E. Along with such a cost breakdown, Phillips recommends that the training professional maintain an "Expense Account Classification" system to cover ongoing operational costs incurred by the training department. This breakdown is similar to any operation budget ledger, identifying expenses related to travel (meals, incidentals), salaries and benefits, printing, office supplies, etc. The budgetary information provided for this project incorporates the designer's out of pocket expenses for meals and travel.

After all training costs described above are identified, the training professional may then compare these costs to the benefits (expressed in dollars) realized by the organization as a direct result of training. In the case of DISOSS instruction several benefits can be immediately identified. The designer did not determine the dollar value associated with each of the following benefits, however, with the appropriate resources and time this could have been determined.

Benefits of DISOSS

- Fast, efficient access to the DISOSS Network consisting of all the American Express Offices worldwide.
- Electronic transfer of documents, eliminating courier service, Overnight Mail, regular mail, facsimile transmission of text (not pictures)
- Messaging capabilities, allowing for telephone calls to Amex offices worldwide to be reduced significantly
- Central, permanent document storage, eliminating need for office space for filing

After the benefits are defined, the training professional would then examine the present operational costs incurred for the following (for specific target populations identified for training) and would carefully break out all items related to the Amex Offices. In other words, for those expenses related to sending and receiving documents and messages, only operational costs incurred for communicating with American Express Offices would be valid.

- Courier Service
- Overnight Mail
- Facsimile Transmissions
- Regular Mail
- Space for Filing (i.e., at Amex Tower, the cost per square for space is extremely costly -- eliminating the need for extensive filing space could save the company a great deal of money)
- Filing Costs (manual vs. automated)
- Telephone
- More Efficient Use of Secretary's Time
  While "More Efficient Use of Secretary's Time" will be more difficult to measure, it is worth the effort in determining ROI because the secretary's hourly wage against the time it takes for that secretary, for example, to prepare a Federal Express form, copy the document, prepare the envelope, and hand deliver the package to Shipping and Receiving is substantial.

After identifying all the costs associated with present performance, the training professional would then be able to measure these costs after instruction. The expenses incurred for DISOSS access is combined with DOSF. A monthly charge of $317.00 per terminal is incurred for IBM 8100 DOSF/DISOSS access. The instructional technologist would first need to determine of this monthly charge, how much is attributed to DOSF and how much is attributed to DISOSS. Once the DISOSS expense is determined, this amount would be subtracted from the operational costs following instruction less the costs incurred for training design and development (see Appendix E). It is presumed, after calculating the ROI, that the organization would realize substantial savings as a result of training.

Summary

This chapter reviewed the formative evaluation process by examining one-on-one and small group trials conducted for DISOSS instruction. Statistical analysis was provided in the summative evaluation where reaction and learning was measured. The remaining two levels of evaluation, behavior and results, were discussed. The instruction was successful. The learners improved significantly based on the pre-test and post test scores. Valuable information was obtained through the attitude questionnaire where the learners identified areas where the instruction could be improved. A proposed plan for learning transfer concluded this chapter.

CHAPTER 7

SUMMARY AND RECOMMENDATIONS

Introduction

A summary of the project is provided in this chapter. It reviews the methods and procedures used to develop DISOSS instruction. Conclusions and recommendations are offered to enhance the value of this project. Areas for improvement are cited to assist the instructional technologist in projects of a similar scope.

Methods and Procedures Used

The Interservice Procedures for Instructional Systems Development, developed at the Center for Educational Technology, Florida State University (1976) was consulted throughout the development of DISOSS instruction. This procedure followed the five phases of an instructional design: analysis, design, development, implementation, and evaluation.

Through analysis, the designer discovered that a definite training need existed for DISOSS instruction. The target population did not know how to perform the basic functions of DISOSS. This information was obtained through observation, help desk calls, a survey of existing clients, and the consultation of subject matter experts. In designing relevant instruction, the designer developed a complete task analysis and identified measurable objectives for DISOSS instruction. The development phase of the Interservice Model produced an instructional strategy that incorporated all objectives for the scope of the project. Materials were produced, consisting of hardcopy of overhead transparencies and relevant handouts. Appropriate media was selected to enhance instruction and present the concepts of DISOSS. Critical to the success of this training was the use of IBM 8100 8775 terminals which the learners accessed during appropriate segments of the training. The DISOSS instruction was delivered twice within the implementation phase of the model; once off-site at the Eastern Regional Operating Center of American Express Company and once at the World Financial Center of the same company. Twenty-one participants from the target population received instruction. Through careful evaluation, it was determined that training was successful. Two levels of evaluation were measured; reaction and learning.

Conclusions

Overall, this project was successful. The statistical information points to the successful achievement of the stated objectives; however, the designer believed that the pre-test/post test could have been significantly improved. The designer learned, through the formative evaluation process, that a re-working of the test items is in order with a review of the objectives. The instructional delivery was sound and the learners reacted well to the activities included. However, with a careful review and revision of the objectives, the test items could be improved by focusing more on psychomotor skills and less on cognitive skills. Also, with a re-working of the objectives, the test would not "seem" as long to the learners. Instead of recording their responses, they would actually be performing their responses. For example, test items on the post test (Appendix J) 33, 34, 36, 39, 40, 41, 42, 43, and 44 could all have been developed as psychomotor test items rather than cognitive test items.

Also, some of the test items could have been completely eliminated. The learners indicated that there were too many. After careful examination, the designer discovered that there were some unnecessary items. For example, test item 37 presented problems. Learners were actually restating the question. In retrospect, this question could have been completely eliminated without sacrificing the objective of the learners being able to access HELP. With a re-focus of the psychomotor skills in the development of the test items and a careful examination of the relevance of each test item, a performance checklist would be a more appropriate instrument as opposed to a paper and pencil test.

The pre-instructional activity was particularly successful. The learners interacted well in the brainstorming activity and it proved to be a good motivator for the entire unit. The designer felt it was rewarding to see the learners respond so positively to this section of the lesson plan. In retrospect, the designer needs to allot more time for this activity since the dynamics of the group are difficult to anticipate and will not remain fixed.

Ample time for group dynamics within the pre-instructional activity should be allotted for future training sessions.

Although objectives 1.0 - 3.2 were covered in the scope of this project, the designer concluded after examining all objectives (see Appendix G) that a re-examination of the sequence of all the objectives would improve instruction. For example, objective 1.4 states, "Given an Office Systems Services client directory and description, the learners will use the Office Systems Services client directory. This must include the correct identification of users' network ID, network address, user agent and employee location (all of which can be found in the OSS client directory). The OSS client directory must be cited as a tool to find this information." This objective is relevant and should certainly be included within the totality of instruction for DISOSS, however, it does not belong in the sequence presented. In retrospect, the designer believes that such an objective would be more appropriate in the section of objectives which addresses the DISOSS function of DISTRIBUTE (objectives 6.1 - 6.16). The concepts involved in using the Office Systems Services client directory would be more relevant during the portion of training where the learners are actually DISTRIBUTING documents and messages through DISOSS. It is only at this point, when the critical information of network ID and network address is actually used. The successful achievement of such an objective would then depend upon whether or not the document or message being distributed was actually distributed. In other words, the success would be measured in the learner's performance rather than in a verbal or written identification.

Within this specific example, objective 1.4 would also need to be re-stated to reflect what in actuality should be measured. The criteria should not be correctly identifying the program or employee location. The only two critical components necessary to successfully distribute a document or message is the network ID and the network address. Also, a criterion where the learner must cite the OSS client directory as a tool to find this information is unnecessary. There is no reason to have the learner cite the OSS client directory as a tool since in performing the function, they are using it as a tool. It would be the equivalent of asking someone to state how one ties a shoe when in actuality, the objective is "tie the shoe."

The overhead transparencies worked well to illustrate concepts and rules of the system, however, the designer believes the use of this medium could be improved. The overheads were identical to the student handouts which formed the beginning of a DISOSS manual. To clarify certain points, the designer could have made better use of this medium by introducing color. Although the cost for producing the student manuals in color was prohibitive, the use of color on the overheads certainly was not cost restrictive. While the instructor used markers to circle and highlight appropriate portions of the visuals as they were discussed, the original overhead transparencies could have been designed with color.

The brainstorming activity worked well because it incorporated a great deal of input on the part of the learners. This same idea could have been carried over into the visuals produced. For example, the designer could enhance the information presentation by introducing such concepts as "network support" in a more visually stimulating manner. A caricature or cartoon which pointed out that help and support was available would have introduced a little humor into the information presentation while still achieving the objective of having learners recognize that the help desks were available to them should they encounter any problems. With such a strategy, it is anticipated that learners would react positively and the humor would result in a more relaxed atmosphere.

Also, learners would have more of an opportunity to provide input if, in the visuals, the designer refrained from presenting the functions of DISOSS and instead first introduced a colorful caricature or scene which reflected the basic function being introduced. The learners would then have the opportunity to "translate" the visual into the basic DISOSS function it was designed to depict. After the learners have an opportunity to "respond" to the visual, the instructor could then overlay the text supporting the definition of the given function. This example could be carried over to other visuals produced; however, certain visuals (i.e., DISOSS menu screens) should remain intact to support the integrity of the system and avoid confusion for the learners.

Recommendations

Based on the conclusions, the designer offers suggestions to continue the project and extend this same methodology to the remaining objectives, not covered within the scope of this thesis. For complete instruction on all the basic functions of DISOSS, the following recommendations would serve to improve the design.

1. Extend the time allotted for the pre-instructional activity from fifteen minutes to thirty minutes.

2. Streamline the post test. Shorten the post test without sacrificing the objectives. This could be accomplished by re-examining the objectives and test items. As indicated, the designer would revise post test items 33, 34, 36, 39, 40, 41, 42, 43 and 44 by focusing more on performance criteria and less on verbal identification of concepts and facts. A complete analysis of the test items with this type of re-focus would most probably result in even further revisions as the instructional technologist proceeded. Some of the test items may prove unnecessary. With such a suggestion, it is anticipated that more opportunities for learners to get "hands-on" practice rather than cognitive practice would enhance the instruction.

3. Review and adjust the sequence of objectives. Re-examine the placement of each objective. After objectives are re-sequenced, the criteria should be carefully reviewed to determine that the objective's criteria is still relevant in its new sequence.

4. Based on the revised objectives and test items, develop a performance checklist to complement the re-focus on psychomotor skills.

5. Simplify the instructional goal to reflect a more "stream-lined" approach to the design. A restatement of the instructional goal without affecting the critical objectives might be "After training, the learners will be able to perform the basic functions of DISOSS and will be able to use the HELP function throughout access to DISOSS."

6. Review all overhead visuals produced. Add color to enhance the information presentation and to clarify points. Add humor to the visuals to stimulate learning and encourage more learner input.

7. Enhance the transfer of learning by obtaining management approval in advance to measure present performance as it relates to DISOSS. The instructional technologist would need to answer the following questions as they pertain to each trainee:

- How much time is spent filing on a daily basis?
- Which American Express Offices are communicated with on a daily, weekly, monthly basis?
- In what form does this communication occur? Phone? Facsimile transmission? Interoffice envelope? Federal Express?

The instructional technologist could obtain this information through observation of the work environment, examination of a given department's operating budget, from the learners, and management. The value of the secretary's time would need to be determined. This would form the data for a complete ROI and would need to be measured again after training. All costs representing time and resources would need to be expressed in dollars and subtracted from the costs incurred for training.

Concluding Statement

The value of this project will be measured on many levels. It was particularly gratifying to learn that the designer's associates would be using this work in other sites at American Express Company. While much work still needs to be done for the complete DISOSS instruction and revisions to the design are necessary, the integrity of the procedure employed still exists.

Since this was the first instructional design that this designer has ever done, the value of this project is also measured by the knowledge and skills the designer obtained throughout this process. On a professional level, the techniques and instruments developed for the DISOSS instruction have been used and adapted for other assignments in which the designer has engaged since the conclusion of this project in performing her job as trainer for Office Systems Services.

Interservice Procedures for Instructional Systems Development model is cyclical. The designer hopes that other instructional technologists will benefit from the project and that her associate in Phoenix, who will be completing the course, will enhance the design further by returning to the analysis phase of the Interservice Procedures model and carrying the revisionary process through to evaluation. The model employed has been praised by this designer's supervisor and has proven invaluable in completing the DISOSS instruction. One measurement of the instruction's success was when the designer received messages (through DISOSS) from two of the students in the class she conducted on May 11th. These "unsolicited" notes were sent to the designer approximately one week after the training session. The students sent out a quick message to thank the designer for the class and to "see if this thing really works!" The designer answered promptly (via DISOSS, of course).

APPENDIX A

Survey of IBM 8100 DISOSS Users

SURVEY OF DISOSS USERS OF 8100 SYSTEM

Name: ____________________ Department: ______________

Floor: ________ Phone: ______ Op ID: _____

1. How long have you been using the 8100 system? ________

2. How often do you distribute a message through DISOSS?

   ____ Daily ____ Weekly ____ Monthly ____ Infrequently

3. A document? ______________

   ____ Daily ____ Weekly ____ Monthly ____ Infrequently

4. How frequently do you file documents out to DISOSS?

   ____ Daily ____ Weekly ____ Monthly ____ Infrequently

   What class do you usually file under? _______

5. How frequently do you search for documents? _________

   ____ Daily ____ Weekly ____ Monthly ____ Infrequently

6. How often do you receive documents and messages through DISOSS?

   ____ Daily ____ Weekly ____ Monthly ____ Infrequently

7. Do you have a list of DISOSS users and people on other systems (e.g., ALL-IN-1, PS/CICS, 8100)?

   ____ Yes ____ No

8. If no, may I send you an updated list? ____

9. Are you familiar with the list status option (#4) on each major function menu of DISOSS? ______

   When do you access this option? ________________________

   Do you delete your search, file, distribute requests? _____

10. Is there anything you find particularly difficult about DISOSS? (Send further documentation?)

SURVEY OF DISOSS USERS OF 8100 SYSTEM - 50 Users Surveyed

1. How long have you been using the 8100 system? ________

23 = less than 1 year
18 = 1 - 2 years
9 = 3+ years

2. How often do you distribute a message through DISOSS?

Daily	Weekly	Monthly	Infrequently
5	**13**	**6**	**26**

Of "infrequent" responses, 21 using DISOSS for less than 1 year.

3. A document? ________________

Daily	Weekly	Monthly	Infrequently
1	**17**	**22**	**10**

4. How frequently do you file documents out to DISOSS?

Daily	Weekly	Monthly	Infrequently
1	**2**	**28**	**19**

What class do you usually file under? _______

24 = RETAIN
15 = Default class (DOC)
11 = LEGAL

5. How frequently do you search for documents? _________

Daily	Weekly	Monthly	Infrequently
0	**16**	**13**	**21**

6. How often do you receive documents and messages through DISOSS?

Daily	Weekly	Monthly	Infrequently
6	**12**	**12**	**20**

Of "infrequent" responses, 15 using DISOSS for less than 1 year.

7. Do you have a list of DISOSS users and people on other systems (e.g., ALL-IN-1, PS/CICS, 8100)?

Yes	No
9	**41**

8. If no, may I send you an updated list? ____

39 = Yes
2 = No

9. Are you familiar with the list status option (#4) on each major function menu of DISOSS? ______

43 = No
7 = Yes

When do you access this option? ____________________

1. **"Check to see status of distribution to make sure document is received."** (6 responses)
2. **"Delete requests"** (2 responses)

Do you delete your search, file, distribute requests?

3 = Yes

10. Is there anything you find particularly difficult about DISOSS? (Send further documentation?)

"Forget to convert docs to RFT when sending to PC user."

APPENDIX B

Secretary Job Analysis

A SYSTEMATIC APPROACH TO TRAINING (SAT) EXERCISE:

JOB AND TASK ANALYSIS

Worksheet 1

JOB TITLE: Secretary

JOB DESCRIPTION:

Within American Express, the role of a secretary is quite diversified. Secretaries may support from one to seven individuals, depending upon the particular department or work load. All engage in the activities of distributing, filing, and typing. All perform as liaison, administrator and meeting planner. They are responsible for being the primary contact between the outside and their supervisors. While overseeing the day-to-day functional issues of their offices, they must also manage the activities of their supervisors by coordinating meetings, preparing expense vouchers, making travel arrangements, and contacting internal/external personnel on behalf of their supervisors. Many secretaries are also asked to analyze data by preparing expense tracking reports, analyses of overtime and inventory analysis.

To a certain degree, secretaries in today's workplace need to be a "jack of all trades." They are expected to juggle a variety of activities accurately and efficiently.

Worksheet 2

JOB TITLE: Secretary

TASKS:

1. Answer phones and take messages
2. Type correspondence
3. Distribute documents
4. Order messenger to hand deliver packages
5. File documents
6. Electronically send documents
7. Use wordprocessing system to generate work
8. Keep a log of electronic documents/reports
9. Prepare and maintain filing system
10. Schedule meetings and appointments
11. Order supplies, subscriptions, calendars, etc.
12. Prepare packages for mailing
13. Organize incoming mail
14. Refer outside callers to appropriate area
15. Make travel arrangements
16. Prepare and analyze expense vouchers
17. Reconcile Managers' Card accounts
18. Perform as liaison between boss(es) and internal and external contacts
19. Contact internal/external personnel to perform expected tasks
20. Prepare expense vouchers
21. Prepare reports for boss(es) (i.e., expense tracking, overtime analyses, etc.)
22. Participate in staff meetings

LIST OF VERBS FOR TASKS:

Distribute
Analyze
Call
Type
Receive
Prepare
Total
Perform
Record
File
Track
Collect
Send
Write
Obtain
Maintain
Communicate
Refer
Collate
Coordinate
Edit

Worksheet 3

MAJOR DIVISIONS OR DUTIES FOR JOB

1. Distributing Activities
2. Maintaining Files and Records
3. Typing/Preparing Correspondence
4. Performing as Liaison
5. Analyzing Data and Preparing Reports
6. Coordinating Activities

Worksheet 4

GROUPING TASKS INTO MAJOR DIVISIONS OR DUTIES - THE BEGINNING OF A TASK-BASED TRAINING PROGRAM OUTLINE

MAJOR DIVISION 1. Distributing Activities

TASK
- 1.1 Distribute documents
- 1.2 Electronically transfer documents
- 1.3 Order for messenger to hand deliver

TASK 2. Maintaining Files and Records

- 2.1 File documents
- 2.2 Log electronic documents
- 2.3 Prepare filing system and documentation

TASK 3. Typing/Preparing Correspondence

- 3.1 Type correspondence
- 3.2 Type reports
- 3.3 Prepare packages for mailing

TASK 4. Performing as Liaison

- 4.1 Between clients and department
- 4.2 Between supervisor(s) and internal/external contacts
- 4.3 Refer outside callers to appropriate area
- 4.4 Answer phones and take messages
- 4.5 Participate in staff meetings

TASK 5. Analyzing Data and Preparing Reports

- 5.1 Prepare expense vouchers
- 5.2 Prepare reports for boss(es) (i.e., expense tracking, overtime analyses, etc.)

TASK 6. Coordinating Activities

- 6.1 Schedule meetings and appointments
- 6.2 Order supplies, subscriptions, calendars, etc.
- 6.3 Organize incoming mail
- 6.4 Make travel arrangements

Worksheet 6

(Worksheet 5 = Task Analysis)

AFFECTIVE PERFORMANCE INDICATOR ANALYSIS

Step One: What is an attitude or value that is desired or required for acceptable task performance?

> The 8100 system users will assume personal responsibility to delete all search, file, distribute requests and to read/act upon their mail-log to keep the system clear, and thereby, assist in proper system maintenance.

Step Two: Think of a worker that possesses that attitude or value. What does that person DO that demonstrates he/she possesses that attitude or value?

1. a) Keeps search, file, and distribute status activities clean.
   b) Looks in mail log regularly, deleting messages and acting on documents.
2. Reminds fellow users of system to do the same.
3. Promptly responds when Office Systems Services tasks individual to clear up forgotten status activities.
4. Asks questions of Office Systems Services when system goes down to see if there is something users can do to assist in alleviating problem.

Step Three: For each behavior listed above, identify the skills or knowledge needed to enable the trainee to perform in the desired or required manner.

The learner is able to:

1. Access the List Status option for Search, File and Distribute

2. Delete completed Search, File and Distribute requests.

3. Explain the purpose of List Status of _______ Activities and describe consequence of not deleting requests.

4. Effectively communicate with fellow users about 8100 System issues and problems.

mer012

APPENDIX C

Learner Analysis Questionnaire

April 15, 1989

LEARNERS' ANALYSIS

DISOSS

The questionnaire (attached) has been developed to prepare a Learners' Analysis. Unfortunately, the designer was unable to obtain personnel records for any of the trainees (prohibited by my company). However, permission was received to issue this questionnaire to prepare a complete learner analysis for DISOSS instruction.

Questions regarding DOSF (Distributed Office Support Facility) have also been included within this questionnaire because training for DOSF and DISOSS is combined within the curriculum.

The following questionnaire has been developed to ensure that you receive training tailored to meet your specific needs. The information within this questionnaire is CONFIDENTIAL and will be used exclusively for your training session on the IBM 8100 System DOSF/DISOSS training. There are no "right or wrong" answers here -- please respond honestly.

Name: ______________________________ **Department:** ____________________________________

Telephone # (Work): ______________ **Location:** ___________________ **Floor:** ____

Please check the appropriate response:

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. Given an opportunity to work with a new wordprocessing system or computer program, I would learn it eagerly.	___	___	___	___	___
2. Given a choice between a computer and a typewriter, I would choose to work with a typewriter.	___	___	___	___	___
3. Working with computers is difficult	___	___	___	___	___

		Daily	Weekly	Monthly	Occasionally	Never
4.	In my current position, I communicate with other American Express Offices (i.e., Phoenix, Salt Lake City, Ft. Lauderdale, Brighton, etc.)	___	___	___	___	___
5.	In my current position, I must file and look for (retrieve) documents for myself and/or my boss(es).	___	___	___	___	___
6.	I type documents (memos, reports, letters, etc.)	___	___	___	___	___

Please complete the following sentences.

7. My current position or title is __________________.

8. I have been in this position ______________ (length of time; please specify months or years.)

9. What are your specific objectives for taking this course?

____

____

10. To create an accurate profile for you, please list the individual(s) you support (i.e., Managers, Directors, etc.)

_________________________, _________________________, _________________________ Please answer the following questions:

11. Have you ever worked with a wordprocessing system before?

_____ Yes

_____ No

12. If yes, which one(s)?

____________________ __________ (length of time; please specify months or years)

____________________ __________

____________________ __________

13. Have you ever worked with an "Electronic Mail Package" before? (an "Electronic Mail Package" is any system which allows you to communicate electronically or "on-line" to other users connected or linked to that system.)

_____ Yes

_____ No

14. If yes, which one(s)?

____________________ __________ (length of time; please specify months or years)

____________________ __________

Thank you for taking the time to answer these questions.

30 Respondents

Five Departments identified:

10 = Travel Management Services Marketing
5 = Travel Management Services Sales
8 = Retail Travel
4 = TRS Legal
3 = TRS Finance

Please check the appropriate response:

		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1.	Given an opportunity to work with a new wordprocessing system or computer program, I would learn it eagerly.	**19**	**6**	**2**	**3**	
2.	Given a choice between a computer and a typewriter, I would choose to work with a typewriter.		**2**	**3**	**7**	**18**
3.	Working with computers is difficult		**5**	**8**	**17**	

		Daily	Weekly	Monthly	Occasionally	Never
4.	In my current position, I communicate with other American Express Offices (i.e., Phoenix, Salt Lake City, Ft. Lauderdale, Brighton, etc.)	12	9	2	7	
	12 respondents who communicate daily are comprised of TMS Marketing, Sales and Retail Travel departments.					
5.	In my current position, I must file and look for (retrieve) documents for myself and/or my boss(es).	11	18	1		
6.	I type documents (memos, reports, letters, etc.)	27	2	1		

Please complete the following sentences.

7. My current position or title is ________________.

22 = Secretaries
6 = Administrative Assistants
2 = Financial Analysts

8. I have been in this position ______________ (length of time; please specify months or years.)

Range of tenure = **6 months to 3 years**

9. What are your specific objectives for taking this course?

1. **"To learn DOSF text editor to generate memos."**
2. **"Want formal training on system - need for job."**

10. **Obtained list of support groups' direct reports for account set up.**

Please answer the following questions:

11. Have you ever worked with a wordprocessing system before?

23	**7**
Yes	No

12. If yes, which one(s)?

WANG	**= 9**	**Avg. = 8 months**
WordPerfect	**= 4**	**" "**
Displaywrite 3/4	**= 6**	**" "**
IBM 8100 DOSF	**= 4**	**Avg. = less than 1 month**

13. Have you ever worked with an "Electronic Mail Package" before? (an "Electronic Mail Package" is any system which allows you to communicate electronically or "on-line" to other users connected or linked to that system.)

2	**28**
Yes	No

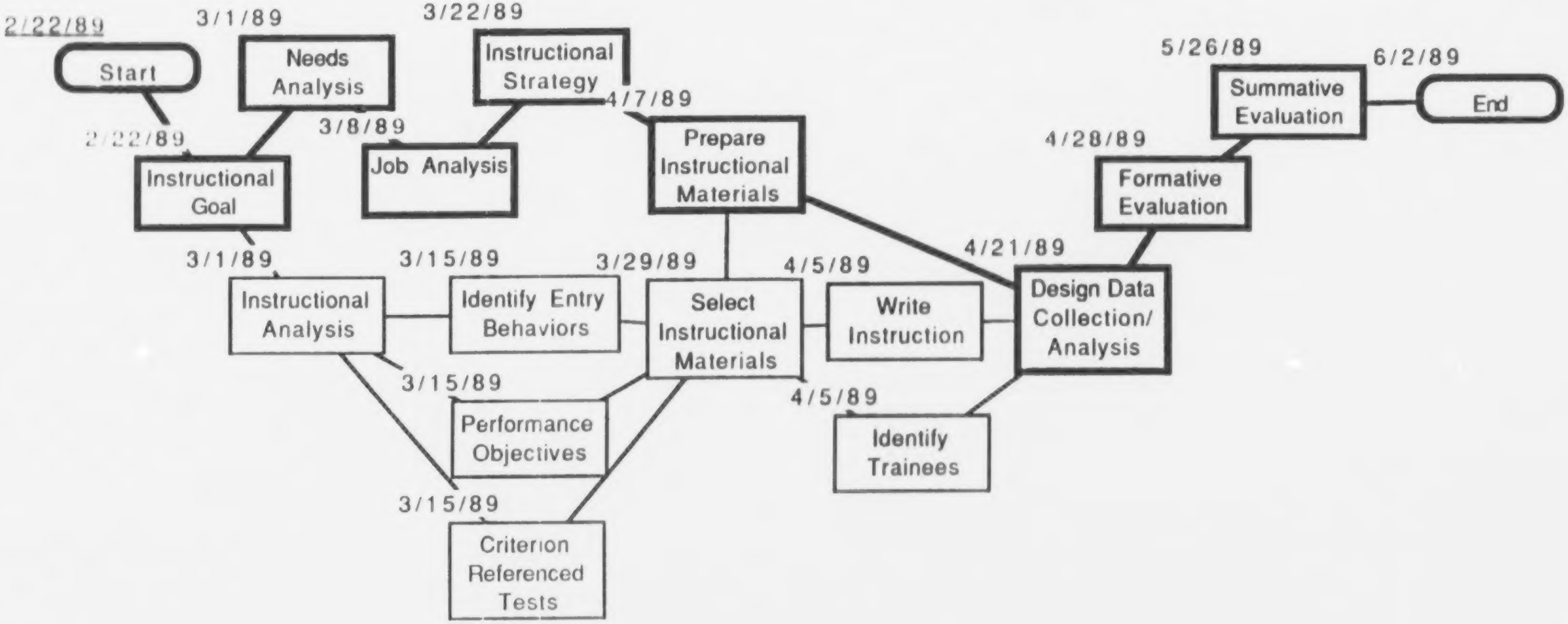
14. If yes, which one(s)?

DEC's ALL-IN-1	**6 months**
PS/CICS	**9 months**

APPENDIX D

Project Planning Tools

DISOSS Functions Training Development Plan



2/22/89
Start

2/22/89
Instructional Goal

3/1/89
Needs Analysis

3/8/89
Job Analysis

3/22/89
Instructional Strategy

4/7/89
Prepare Instructional Materials

3/1/89
Instructional Analysis

3/15/89
Identify Entry Behaviors

3/15/89
Performance Objectives

3/15/89
Criterion Referenced Tests

3/29/89
Select Instructional Materials

4/5/89
Write Instruction

4/5/89
Identify Trainees

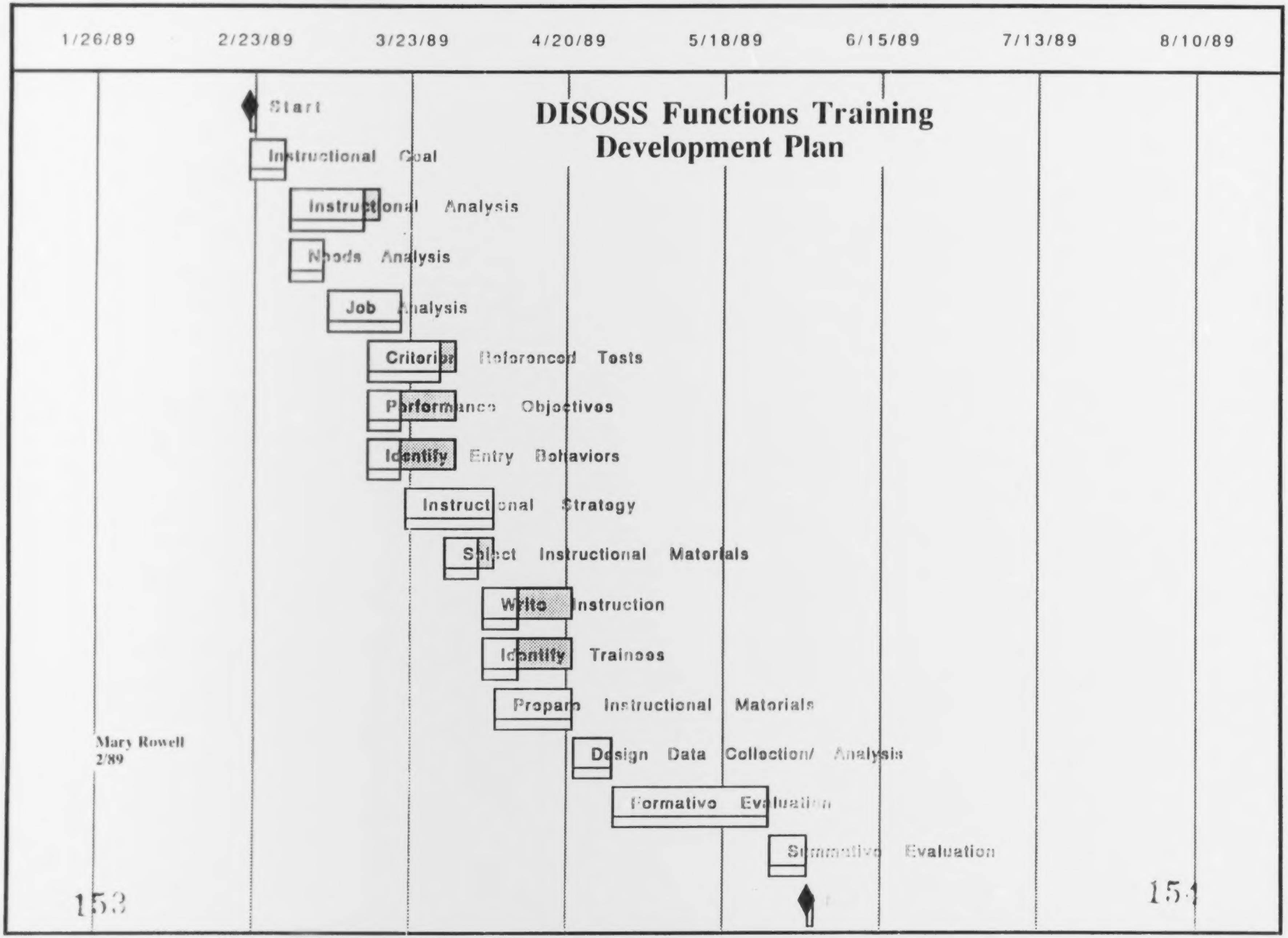
4/21/89
Design Data Collection/ Analysis

4/28/89
Formative Evaluation

5/26/89
Summative Evaluation

6/2/89
End

Mary Rowell
2/89



DISOSS Functions Training Development Plan

BEST COPY AVAILABLE

```
                              PROJECT ACTION LIST
Source:   OSS     OFFICE SYSTEMS SERVICES               Ref:            Page   1
Project:  DOSFD   DOSF/DISOSS Training and Support for Clients
=========================================================== Priority   Completed

MR                         COMP COMPLETED                          2     02/22/89
        Discuss DISOSS project with E. M. and get approval for desig
        n.
--------------------------------------------------------------------------------
MR                         COMP COMPLETED                          1     02/27/89
        Identify existing clients for DISOSS survey (Needs Analysis)
--------------------------------------------------------------------------------
MR                         COMP COMPLETED                          1     03/02/89
        Conduct survey of clients (32 identified to date willing to
        participate).
--------------------------------------------------------------------------------
MR                         COMP COMPLETED                          2     03/07/89
        Conduct one-on-one interviews (data for Needs Analysis).
        Call K. Gonzalez and C. Cuevas for remaining apptmts.
--------------------------------------------------------------------------------
MR                         COMP COMPLETED                          1     03/08/89
        Meet w/ N. Scalone regarding Help Desk calls for data to be
        included in Needs Analysis.
--------------------------------------------------------------------------------
MR                         COMP COMPLETED                          2     03/15/89
        Analyze data for Needs Analysis.  Prepare conclusions and su
        bmit to E. M. for review.
--------------------------------------------------------------------------------
MR                         COMP COMPLETED                          1     03/22/89
        Prepare Job Analysis of secretary/administrative assistant.
         Call D. Hawkins for job descriptions.
--------------------------------------------------------------------------------
MR                         COMP COMPLETED                          2     03/23/89
        Review IBM 8100 materials and consult J. Henderlite for task
        analysis.
--------------------------------------------------------------------------------
MR                         COMP COMPLETED                          2     03/24/89
        Identify entry behaviors.  Access 8775 terminal to ensure al
        l behaviors identified practically. Submit to N.S. for revw
--------------------------------------------------------------------------------
MR                         COMP COMPLETED                          1     03/30/89
        Prepare first draft of task analysis.  Submit to N.S. and J.
        Henderlite for review.
--------------------------------------------------------------------------------
MR                         COMP COMPLETED                          1     04/04/89
        Develop objectives based on completed task analysis.
--------------------------------------------------------------------------------
MR                         COMP COMPLETED                          3     04/03/89
        Create visual of DISOSS Network and submit to D. Cunningham
        for approval.
--------------------------------------------------------------------------------
MR                         OPN  OPEN                               2     __/__/__
        Revise instructional objectives based on J. Henderlite feed-
        back.
--------------------------------------------------------------------------------
MR                         OPN  OPEN                               2     __/__/__
        Get E. M. approval for field trials to evaluate program and
        design.
--------------------------------------------------------------------------------
```

APPENDIX E

Budget Methodology

BUDGET

A cost classification system was used to provide budgetary information (Philips, 1983). Labor rates vary depending upon individual. The designer's hourly wage was calculated at $19.50, the participants' at $15.00, the subject matter experts at $25.00 and the administrative assistant at $15.00. Costs are grouped for analysis, design, development, delivery and evaluation.

Category	Hours	Cost	Total Labor
Analysis			
Labor - Designer	62	$1,209.00	
- Participants	35	$525.00	
- SME	4	$100.00	
- Admin. Asst.	6	$90.00	
			$1,924.00
Meals, Auto Expenses	-	$250.00	
Office Supplies		$50.00	
Printing, Reproductions		$10.00	
Total Costs for Analysis		$2,234.00	
Design			
Labor - Designer	85	$1,657.50	
- Admin. Asst.	1	$15.00	
			$1,672.50
Meals, Auto Expenses	-	$300.00	
Office Supplies	-	$5.00	
Materials, Overheads	-	$10.00	
Printing, Reproductions	-	-	
System Charge (six terminals @$317.00 each per month. Half month calculated in total)		$951.00	
Total Design Costs		$2,938.50	

Category	Hours	Cost	Total Labor
Development			
Labor - Designer	75	$1,462.50	
- SME	3	$75.00	
- Admin. Asst.	1	$15.00	
			$1,552.50
Meals, Auto Expenses	-	$75.00	
Office Supplies	-	$5.00	
Materials, Overheads	-	$40.00	
Printing, Reproductions	-	$10.00	
System Charge (six terminals @$317.00 each per month. Half month calculated in total)		$951.00	
Total Development Costs		$2,633.50	
Delivery Costs			
Labor - Designer	24	$468.00	
- Participants	9.5	$142.50	
			$610.50
Meals, Auto Expenses	-	$58.00	
Office Supplies	-	$10.00	
Printing, Reproductions	-	$60.00	
Systems Charge (six terminals @$317 each per month)		$1,902.00	
Total Delivery Costs		$2,640.50	

Category	Hours	Cost	Total Labor
Evaluation Costs			
Labor - Designer	40	$780.00	
- Participants	18.5	$277.50	
			$1,057.50
Office Supplies	-	$5.00	
Printing, Reproductions	-	$5.00	
Systems Charge (six terminals @$317 each per month)		$1,902.00	
Total Evaluation Costs		$2,969.50	

Category	SubTotal* Costs	SubTotal Labor	Grand Total
Analysis	$310.00	$1,924.00	$2,234.00
Design	$1,266.00	$1,672.50	$2,938.50
Development	$1,081.00	$1,552.50	$2,633.50
Delivery	$2,030.00	$610.50	$2,640.50
Evaluation	$1,912.00	$1,057.50	$2,969.50
TOTAL	$6,599.00	$6,817.00	$13,416.00

* Includes miscellaneous T&E expenses, materials, system costs and excludes labor.

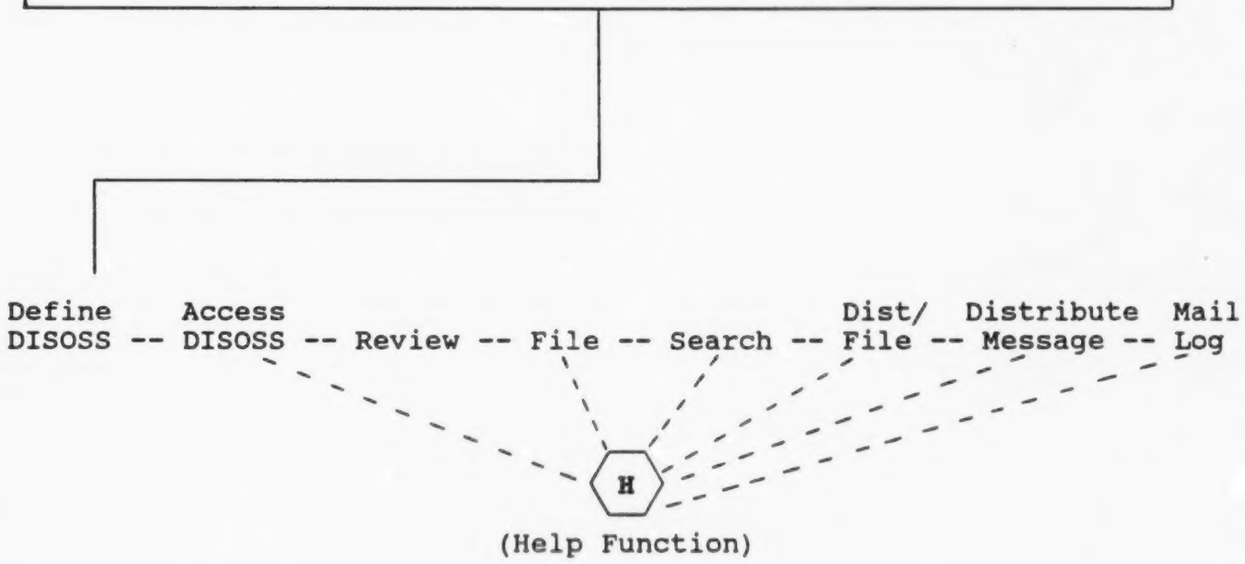
APPENDIX F

Task Analysis

Wednesday, March 8, 1989
Revised 4/16/89

TASK ANALYSIS

After training, the learners will be able to file, retrieve, distribute, receive documents and send/receive messages through DISOSS (Distributed Office Support System) and describe, in their own words, the significance/purpose of these functions.


Define DISOSS
Access DISOSS
Review
File
Search
Dist/ File
Distribute Message
Mail Log
H
(Help Function)

1.0 Define DISOSS, network, standards and functions

1.1 Define DISOSS

1.2 Describe the functions that can be performed through DISOSS

1.3 Recognize DISOSS Network Structure

1.4 Use the Office Systems Services Client Directory

1.5 Identify network support

1.6 Define DISOSS naming conventions

1.7 Identify DISOSS classes and retention periods

Entry Behaviors:
- Define basic DOSF terminology
- Identify purpose of DOSF

2.0 Access DISOSS

2.1 Sign onto 8100 System

2.2 Access DISOSS function

2.3 Access Help Function and read Help text — H — 2.4 Describe purpose and procedure for access to Help throughout DISOSS

2.5 Exit Help Function

Entry Behaviors:
- Able to sign on to 8100 system
- Able to function on 8100 keyboard

3.0 Review Functions

3.1 Read main menu

3.2 Identify procedure for accessing each function

4.0 File to DISOSS Host Library

4.1	Describe purpose and significance of File function	V	4.2	Explain difference between File a Local Document and File an External Document
4.3	Select option 1 to File	H	4.4	Access Help for File a Local Document
4.5	Select option 1 to File a Local Document	H	4.6	Access Help for Search Terms
		V	4.7	Explain why Search Terms are used
		V	4.8	Define classes
4.9	Fill in Document Local Name, Class Date, Author, Subject and Search Terms	H	4.10	Access Help function for Processing Options and identify differences in options
4.11	Select option "now" for processing			
4.12	Return to previous screen	V	4.13	State purpose of List Status of Your File Activities
4.14	Select option 4 (List Status of Your File Activities)			
4.15	Delete file request			
4.16	Return to Main Menu			

Entry Behaviors: - Able to store, clear, retrieve documents in DOSF

5.0 Search for a Document

5.1 Describe purpose and function of Search

5.2 Select option 2 to search —— ⬡H 5.3 Access Help for Search Filed Document(s)

5.4 Select option 1 to Search Filed Document(s)

5.5 Fill in Search Term field —— ◁V 5.6 Identify other fields that may be filled in to search for filed documents

5.7 Enter to start search function

5.8 Select option 3 to Display Descriptors

5.9 Select item number of document and enter function number to view the document

5.10 Return to previous screen

5.11 Return to Search Filed Document(s) screen

5.12 Select Modify Search Request function

5.13 Input Document File Name (review), delete search term and press enter

5.14 Select function to Display Descriptors

5.15 Select item number of the document, select the function which will bring the document into the permanent store and press enter

5.16 Rename the document "**xx**review" (fill in your initials where **xx** appears). Select option 2 for later.

5.17 Delete all search requests (two)

5.18 Return to Main Menu

6.0 Distribute/File a Document

6.1	Describe purpose and function of Distribute/ File a Document			
6.2	Select option 3 (Distribute)	H	6.3	Access Help for Distribute and File Local Document
		H	6.4	Read Help text and clear out of help
6.5	Select option 1 (Distribute and File Local Document)			
6.6	Fill in Document Name, Document Class, Subject, Search Term, RRR	V	6.7	Define RRR (Return Receipt Requested)
6.8	Select option to attach a message to document			
6.9	Fill in Recipient Name and Address referring to OSS Client Directory			
6.10	Process "later" and enter			
6.11	Type message and enter			
6.12	Return to Distribute Select Menu			
6.13	Select option 4 (List Status of Distribution Activities)			
6.14	Confirm that the document/ message was sent and delete the distribution request	V	6.15	State purpose of checking the status of distribution activities
6.16	Return to DISOSS Main Menu			

7.0 Distribute a Message

7.1 Select option 3 to distribute — H 7.2 Access Help for Distribute Message

H 7.3 Read Help text and clear out of function

7.4 Select option 3 (Distribute Message)

7.5 Select individual(s) to whom message will be sent

7.6 Type message and enter Addressing information

7.7 Send message, choosing option "later"

7.8 Return to previous screen

7.9 Access List Status of Your Distribution Activities screen

7.10 Confirm Message(s) were sent and delete requests

7.11 Exit DISOSS

8.0 Access Mail-Log

8.1	Describe purpose and function of Mail-Log	V	8.2	State significance of "M" found in lower corner of screen
8.3	Access DISOSS from DOSF	H	8.4	Access Help for Mail-Log, read and exit Help function
8.5	Select option 4 (Mail-Log)	V	8.6	Identify tag
		V	8.7	Define Recipients
8.8	Select option 7 (Display Recipient List)			
8.9	Select option 1 (Display Mail-Log Entries)	V	8.10	Define functions of print, respond, view, change, pass, delete, copy, insert
8.11	View a document in Mail-Log			
8.12	Pass a document to another user			
8.13	Copy a document to permanent store			
8.14	Respond to a message			
8.15	Print a document			
8.16	Delete unwanted mail			

Entry Behaviors: - Print documents

APPENDIX G

Performance Objectives and Test Items

PERFORMANCE OBJECTIVES AND TEST ITEMS FOR DISOSS FUNCTIONS

3/22/89
Revised 4/15/89

INSTRUCTIONAL GOAL: After training, the learners will be able to file, retrieve, distribute, receive documents and send/receive messages through DISOSS (Distributed Office Support System) and describe, in their own words, the significance/purpose of these functions.

Subskill	**Performance Objective**	**Test Items**
1.1 Define DISOSS	Given the "DISOSS/PC" handout, the learners will be able to define DISOSS. This definition must include the identification of the host or mainframe located in Phoenix and the DISOSS Network.	1.1.1 DISOSS is a software product which resides on the host or _________ _________ in Phoenix, Arizona. **Mainframe computer** 1.1.2 DISOSS stands for Distributed Office Support System. Complete the following sentence which describe how DISOSS acts as a "Distributed Office Support System." DISOSS allows me to communicate to other users linked to the __________. **DISOSS Network**

	Subskill	**Performance Objective**	**Test Items**
1.2	Describe the functions that can be performed through DISOSS	Given a description of DISOSS functions and "Objectives" handout, the learners will describe the functions that can be performed through DISOSS. This description must include: File, Search, Distribute and access to the Mail-log.	1.2.1 List the four main functions that can be performed through DISOSS (Distributed Office Support System). 1. **File Documents** 2. **Search Filed Documents OR Look for Filed Documents** 3. **Distribute OR Send Docs/Messages** 4. **Access Mail-Log OR Receive Docs/Messages**

	Subskill	**Performance Objective**	**Test Items**
1.3	Recognize DISOSS Network Structure	Given a "Network Structure Handouts" and an explanation of the Network, the learners will be able to recognize the DISOSS Network Structure. This recognition must include the learners' correct identification of offices linked to the DISOSS Network as well as the other programs linked to the DISOSS Network, allowing communication from one program to another.	1.3.1 Referring to the "DISOSS Network Structure" handout, answer True or False to the following statements. With the current Network structure, we can communicate with American Express Offices in Tokyo. **True** 1.3.2 Only IBM 8100 DISOSS users linked to the DISOSS Network can communicate with offices worldwide. **False**

	Subskill	Performance Objective	Test Items
1.4	Use the Office Systems Services Client Directory	Given an Office Systems Services Client Directory, the learners will use the Office Systems Services Client Directory. This must include the correct identification of users' Network ID, Network Address, User Agent and Employee Location (all of which can be found in the OSS Client Directory). The OSS Client Directory must be cited as a tool to find this information.	1.4.1 What would you consult if you wanted to determine to whom you could send documents and messages? **The Office Systems Services Client Directory** 1.4.2* Refer to the OSS Client Directory and look up the correct address for the following individuals. Jacque Henderlite = **PHOENIX** Julie Thorpe = **SALTLAKE** John Vaszily = **FTLAUDER** 1.4.3 What is the Network Address of Leonie McCabe and what program or User Agent does she use? **BROC; PS/PC is the User Agent**

* Note: this test item will not appear directly after question 1.4.1 in the actual post-test.

	SUBSKILL	PERFORMANCE OBJECTIVE	TEST ITEMS
1.5	Identify network support	Given the support information, the learners will identify network support. This must include identification of the NY and Phoenix Help Desks and appropriate circumstance when learners should access the Help Desk.	1.5.1 If you were working on a document and you received a system message on the bottom of your screen that looked like a lightening bolt with a "22" through it, what would you do? **CONTACT THE NY HELP DESK (AND/OR) -- IF THEY WERE UNAVAILABLE, I WOULD CALL THE PHOENIX HELP DESK.** 1.5.2 If you had a problem trying to print out an urgent document for your boss and no one in your department was available to assist you, what would you do to get help immediately? **I WOULD CALL THE NY HELP DESK (AND/OR) -- IF THEY WERE UNAVAILABLE, I WOULD CALL THE PHOENIX HELP DESK.**

	Subskill	Performance Objective	Test Items
1.6	Define DISOSS naming conventions	Given a description of naming conventions, the learners will define DISOSS naming conventions. This must include the learners identifying their own DISOSS names with an explanation of how they arrived at determining their DISOSS name.	1.6.1 Please record your DISOSS ID in the space provided and explain the "rule" or naming convention that led you to this identification. **LEARNERS MUST IDENTIFY THE FIRST LETTER OF THEIR FIRST NAME AND THE FIRST SEVEN LETTERS OF THEIR LAST NAME (I.E., MROWELL OR MROWELL) AND DEFINE THE NAMING CONVENTION OF A TOTAL OF 8 OR LESS CHARACTERS WITH FIRST LETTER OF FIRST NAME AND FIRST SEVEN LETTERS OF LAST NAME AS THE "RULE."** 1.6.2 Although they have not yet been added to the Office Systems Services Client Directory, please identify the DISOSS names for the following new employees: Elliott Banen = **EBANEN** Clinton Eastwood = **CEASTWOO** Ann Lee Smith = **ASMITH**

	Subskill	**Performance Objective**	**Test Items**
1.7	Identify DISOSS classes and retention periods	Given a "Document Classes and Retention Periods" handout, the learners will identify DISOSS classes and retention periods. This must include an explanation for using one Class over another (because different classes have different retention periods). Learners must identify the appropriate class or classes for specific circumstances presented by the trainer (some circumstances may allow for more than one class as correct responses).	1.7.1 Your boss has asked you to file an important 50-page document. She would like this to be accessible for an indefinite period of time. Referring to the Document Classes handout, under what class would you file this document? And Why? **RETAIN - BECAUSE THE RETENTION PERIOD FOR RETAIN IS "FOREVER" OR INDEFINITE.**
		1.7.2 If you do not specify a document class when filing to the DISOSS Host Library, for what length of time will the document remain in the DISOSS Host Library? **6 MONTHS**	1.7.2 If you had a two-page document that would no longer be needed after four months, under what class would you file it? And why? **NOTICE OR MEMO OR DOC -- BECAUSE THE RETENTION PERIOD IS SIX MONTHS (CLOSEST TO THE AMOUNT OF TIME NEEDED) AND THE DOCUMENT CLASSES FITS THE REQUIREMENT IN TERMS OF PAGES AND RETENTION PERIODS SUPPLIED IN THE HANDOUT.**

	SUBSKILL	PERFORMANCE OBJECTIVE	TEST ITEMS
*	Sign onto 8100 System	Given access to a terminal linked to the 8100 System, the learners will sign onto the 8100 System. This must include turning up the brightness on the monitor (if necessary), signing onto the system with the screen displaying: **TEXT EDIT AND ENTRY.**	Sign onto the 8100 system. **SCREEN SHOULD READ: TEXT EDIT AND ENTRY**
2.1	Access DISOSS function	Given access to Text Edit and Entry screen with instructions for accessing DISOSS, the learners will access DISOSS function. Success of this function will bring the learners to the DISOSS Main Menu.	2.1.1 Please access DISOSS now. **SCREEN = DISOSS MAIN MENU** 2.1.2 Please exit DISOSS **SCREEN = ENTER COMMAND** 2.1.3 Please access DISOSS again **SCREEN = DISOSS MAIN MENU**

* Not actually an objective of this instruction. Presumed to be an Entry Level Skill.

	Subskill	**Performance Objective**	**Test Items**
2.2	Access Help Function and read help text	Given access to the DISOSS Main Menu and instructions for locating Help Function, the learners will access the Help Function and read help text. Success accessing this function will bring the learners to the Help screen titled Main Menu Functions. To verify that learners are reading the help text, they must answer the trainer's questions (oral Q/A activity).	2.2.1 Access the Help function from the DISOSS Main Menu. Please read through this first screen. **MONITORS SHOULD READ: MAIN MENU FUNCTIONS** 2.2.2 What is the "default" on the DISOSS Main Menu? **MAIL-LOG** 2.2.3 Please proceed to the next screen and read the remaining Help text. If you access the file function to file a document through DISOSS, where will the document be filed? **DISOSS HOST LIBRARY**

	Subskill	**Performance Objective**	**Test Items**
2.3	Identify purpose and procedure for access to Help throughout DISOSS	Given access to the Help Function screen, the learners will identify the purpose and procedure for access to Help throughout DISOSS. This must include a description, in the learners' own words and the purpose for accessing Help. The learners must identify how to get Help by screen and by item as well as how to exit the Help function.	2.3.1 If you want to get Help on a screen or menu in DISOSS, how would you do this? **Move my cursor to the Enter Selection Number line or to the line where the title of the screen is displayed and hit the Help Key.** 2.3.2 If you wanted to get specific information about a particular function within a screen, what do you do? **Move my cursor to the specific function or line containing the item for which I want more information and hit the Help Key.**

Subskill	Performance Objective	Test Items
2.3 Identify purpose and procedure for access to Help throughout DISOSS		2.3.3 How do you exit the Help Function? **HIT THE CANCEL KEY** 2.3.4 In your own words, describe the purpose of accessing the Help Function in DISOSS. **I ACCESS THE HELP FUNCTION IN DISOSS WHENEVER I NEED HELP OR MORE INFORMATION ABOUT A MENU, SCREEN OR PARTICULAR ITEM.**
2.4 Exit Help Function	Given access to the Help Function screen, the learners will exit the Help function. Success of function will bring the learners back to the DISOSS Main Menu.	2.4.1 Please exit the Help function now. **SCREEN SHOULD READ DISOSS MAIN MENU**

	Subskill	Performance Objective	Test Items
3.1	Read main menu	Given access to the DISOSS main menu, the learners will read the main menu. This must include learners' responses to instructor's questions regarding the main menu (to verify that the learners are reading the menu).	3.1.1 If you wanted to respond to a Message, which function would you access? **Mail-log and/or Option 4**
			3.1.2 If you wanted to find a document you filed out to the DISOSS Host Library, which function would you access? **Search and/or Option 2**
			3.1.3 If you wanted to send a message to a friend who also accessed DISOSS, which function would you select? **Distribute and/or Option 3**
			3.1.4 How do you exit DISOSS? **Type: 99 on Enter Selection Line**

	Subskill	Performance Objective	Test Items
3.2	Identify procedure for accessing each function	Given access to the DISOSS main menu and instructions for selecting desired function, the learners will identify procedure for accessing each function. This identification must include that the learners must select the function by its corresponding number and enter the selection number on the function line to access a specific function.	3.2.1 If you wanted to select a menu or function from the DISOSS Main Menu, where would you enter your choice? **At line reading "Enter Selection Number"** 3.2.2 What do you enter if you wanted to access the File function from this menu? **On the Enter Selection Number line, I would type the number one and enter.**

	Subskill	**Performance Objective**	**Test Items**
4.1	Describe purpose and significance of File function	Given an explanation of File function, the learners will describe the purpose and significance of File function. This must include a description in the learners' own words of the two most frequently accessed functions within the File menu: 1) File a Document to Host 2) List Status of File Activities	4.1.1 What two functions will you most often perform with the File option off the Main Menu? **File a Document to the Host and List Status of File of File Activities** 4.1.2 In your own words, describe the reason you access File a Document to the Host and List Status of File Activities. **To save documents in the host or library for whatever length of time I choose so I may make room in my permanent store. I access the List Status option to check whether or not filing was successful and to delete requests.**

	Subskill	**Performance Objective**	**Test Items**
4.2	Explain difference between File a Local Document and File an External Document	Given a definition of Local and External Documents, the learners will explain the difference between File a Local Document and File an External Document. This must include a description in the learners' own words, identifying External Documents as "hardcopy" or files/materials unconnected with the DISOSS system.	4.2.1 What is the difference between a local document and an external document? Give an example of each. **An external document is not within the system. An example of an external document is a copy of a memo filed away in a drawer in the office. A local document is a document created within the 8100 system, stored in the permanent store. An example of a local document is the document "Movies" we created in class.**
4.3	Select option 1 to File,	Given instructions to access File function, the learners will select option 1 to File. For successful completion, the learners must be in File Select Menu screen.	4.3.1 We are going to look at the File function first. Select option 1 to File an hit enter. **Screen should read: File Select Menu**

	Subskill	**Performance Objective**	**Test Items**
4.4	Access Help for File Select Menu	Given instructions for accessing Help, the learners will access Help for File Select Menu. For successful completion, the learners must have "Filing Function" displayed on their monitors and read the text displayed.	4.4.1 Access the Help function for this screen. **SCREEN SHOULD READ: FILING FUNCTION** 4.4.2 What does an asterisk indicate by a function in any given menu? **DEFAULT** 4.4.3 Let's clear out of the Help function now. **SCREENS SHOULD READ: FILE SELECT MENU**
4.5	Select option 1 to File a Local Document	Given access to File Select Menu, the learners will select option 1 to File a Local Document. For successful completion, the learners must be in File a Local Document screen.	4.5.1 Select option 1 to File a Local Document **SCREEN SHOULD READ: FILE A LOCAL DOCUMENT**

	SUBSKILL	**PERFORMANCE OBJECTIVE**	**TEST ITEMS**
4.6	Access Help for search terms	Given instructions for accessing Help by item, the learners will access Help for search terms. For successful completion, the learners must have Help screen for Search Terms on their monitors.	4.6.1 Access Help for search term **SCREEN SHOULD READ: SEARCH TERMS** 4.6.2 What does the comma indicate when separating two or more search terms? **AND** 4.6.3 Exit the Help function now. **SCREEN SHOULD READ: FILE SELECT MENU**

	Subskill	Performance Objective	Test Items
4.7	Explain why search terms are used	Given explanation of search terms, the learners will explain why search terms are used. This must be in the learners' own words and must include that search terms assist the users to look for documents.	4.7.1 Why do we use search terms when filing documents? Give an example of a search term you would use for your office and explain why you chose it. **We use search terms when filing documents to make it easier to find the documents later. An example of a search term I would use in my office is: "memodg." I work for three people. Dorsey Grant is one of the people. If I used this search term for every memo I created for Dorsey, I could easily find all her memos.**
4.8	Define classes	Given Document Classes and Retention Periods handout, the learners will define classes. This must include why class is defined when filing a document.	4.8.1 Referring to the Classes and Retention Periods handout, what would happen if you filed an important document for your boss with a class of DOC (which is the default if you do not fill in any document class name)? **It would be deleted in six months**

	SUBSKILL	PERFORMANCE OBJECTIVE	TEST ITEMS
4.9	Fill in Document Local Name, Class, Date, Author, Subject and Search Terms.	Given instructions for filling in appropriate fields, the learners will fill in Document Local Name, Class, Date, Author, Subject and Search Terms. For successful completion, all fields must be filled in appropriately.	4.9.1 Let's file the document you created the other day; "computers." Fill in the appropriate fields but do not enter yet. **SCREENS SHOULD READ:** **DOC LOCAL NAME = COMPUTERS** **CLASS = DOC** **DATE = LEAVE BLANK** **AUTHOR = TRAINEE'S NAME** **SUBJECT = TRAINING CLASS DOC TEST** **SEARCH TERM = TRAINING, FUN, TEST**

	Subskill	**Performance Objective**	**Test Items**
4.10	Access Help function for Processing Options and identify differences in options	Given access to File a Local Document screen, the learners will access help function for Processing Options and identify differences in options. For successful completion, learners will read help screen for "Processing Option" and distinguish between options.	4.10.1 Access Help for Processing Option **Screen should read: Processing Option** 4.10.2 What does processing option 2 indicate? **Process Later** 4.10.3 What does processing option 5 indicate? **Ignore Request** 4.10.4 If you wanted to exit DISOSS, what would you enter? **99** 4.10.5 Exit the Help function **Screen = File a Local Doc**

	SUBSKILL	PERFORMANCE OBJECTIVE	TEST ITEMS
4.11	Select option "now" for processing	Given appropriate fields have been filled in, the learners will select option "now" for processing. For successful completion the learners' monitors must read: Request completed - Enter-Next Function- to continue.	4.11.1 Select option "now" for processing and enter. **SCREEN = REQUEST COMPLETED**
4.12	Return to previous screen	Given instructions, the learners will return to previous screen. For successful completion, the learners' monitors will display File Select Menu.	4.12.1 We are going to return to the previous screen now. You can do this by hitting the clear button or by entering "9" at the processing option line. Select either method and enter. **SCREEN = FILE MENU**

	SUBSKILL	PERFORMANCE OBJECTIVE	TEST ITEMS
4.13	State purpose of List Status of Your File Activities	Given explanation of List Status options on every function menu, the learners will state purpose of List Status of Your File Activities. This statement must be in the learners' own words and must include "to check status of whether or not filing, searching, distributing was successful and to clean up requests which can bog down the system."	4.13.1 Supply the two most important reasons for accessing the List Status option 1) **TO CHECK TO SEE IF FILING, SEARCHING, DISTRIBUTING WAS SUCCESSFUL.** 2) **TO DELETE ACTIVITY REQUESTS SO SYSTEM DOES NOT GET "BOGGED DOWN."**
4.14	Select option 4 (List Status of Your File Activities)	Given access File Select Menu, the learners will select option 4 (List Status of Your File Activities). For successful completion, screen must read: Status of Your File Activities.	4.14.1 What option number would you select if you wanted to check the status of your file activities? **4** 4.14.2 Select this option and hit enter **SCREEN = STATUS OF YOUR FILE ACTIVITIES**

	SUBSKILL	**PERFORMANCE OBJECTIVE**	**TEST ITEMS**
4.15	Delete file request	Given instructions for deleting, the learners will delete the file request. For successful completion, the Status column must read: deleted.	4.15.1 Check to see that the document you just filed was successfully completed. If so, then delete the request. **UNDER STATUS, SCREEN SHOULD READ: DELETED**
4.16	Return to main menu	Given instructions, the learners will return to main menu. For successful completion, the monitors must display: DISOSS Main Menu.	4.16.1 Return to the Main Menu **SCREEN = DISOSS MAIN MENU**
5.1	Describe purpose and function of Search	Given description of Search function, the learners will describe purpose and function of Search. This description must be in the learners' own words and must indicate "Search is accessed when looking for a document filed in DISOSS."	5.1.1 What does the search function allow you to do? **SEARCH FUNCTION ALLOWS ME TO LOOK FOR DOCUMENTS PREVIOUSLY FILED TO DISOSS.**
5.2	Select option 2 to search	Given access to the Main Menu, the learners will select option 2 to search. For successful completion, monitors should read: Search Select Menu.	5.2.1 Access the Search function **SCREEN = SEARCH SELECT MENU**

	Subskill	**Performance Objective**	**Test Items**
5.3	Access Help for search	Given access to Search Select Menu, the learners will access help for search. For successful completion, the learners must have their cursor on the Enter Selection Number line and correct display within help function must read: Search Function.	5.3.1 Access Help for Search **Screen = Search Function** 5.3.2 Once you have found a document through the Search function, what functions can you perform with this function? (Read the Help Text) **Change its filing information, display it, delete your access to it, retrieve it, print it, pass it to other users.** 5.3.3 Exit the Help function **Screen = Search Select Menu**

	Subskill	**Performance Objective**	**Test Items**
5.4	Select option 1 to Search Filed Document(s)	Given access to Search Select Menu, the learners will select option 1 to Search Filed Document(s). For successful completion, monitor must read: Search Filed Document(s) screen.	5.4.1 Let's search for a document now. Select the appropriate option to do this. **SCREEN = SEARCH FILED DOCUMENTS**
5.5	Fill in Search Term field	Given search term by instructor, the learners will fill in Search Term field. The search term must be entered in appropriate field, correctly spelled (em clients*). Trainer provides explanation of why this particular search term is being used (to access an updated OSS client directory).	5.5.1 Return down to Search Term Field and fill in the word "em clients*" -- do not enter yet. **SCREEN SHOULD READ "EM CLIENTS*" IN SEARCH TERM FIELD**
5.6	Identify other fields that may be filled in to search for filed documents	Given access to Search Filed Document(s) screen, the learners will identify other fields that may be filled in to search for filed documents. For successful completion, the learners must identify at least two of the following: class, from/to dates, document file name, author, recipient.	5.6.1 Other than search terms, what other fields can you fill in when searching for a document? Please list at least two. **CLASS, FROM/TO DATES, DOCUMENT FILE NAME, AUTHOR, RECIPIENT**

	Subskill	Performance Objective	Test Items
5.7	Enter to start search function	Given correctly filled in search term in the appropriate field, the learners will enter to start the search function. For successful completion, screen should first read "Operation in Progress" and then "Operation complete." Six documents should be found.	5.7.1 Please hit enter to start the search function. **Six documents should be found, and screen should read: Display Descriptors**
5.8	Select option 3 to Display Descriptors	Given the successful completion of searching with search term, the learners will select option 3 to Display Descriptors. For successful completion, Display Descriptors screen must be displayed on monitor with six documents listed.	5.8 Select the appropriate option to display the descriptors so we can see the names of these six documents we searched for using the search term "em clients*" **Display Descriptors Screen should appear with documents = Using Client Direc, A-F, G-L, M-P, Q-S, T-Z**

	Subskill	**Performance Objective**	**Test Items**
5.9	Select item number of document and enter function number to view the document	Given access to Display Descriptors screen, the learners will select item number of document and enter function number to view the document. Learners may select any item they choose, but must select function 3. Document must appear on monitor. Trainer should explain that learners can print these documents when they return to their offices.	5.9.1 Please choose a document that you would like to see and select the function that will allow you to view it. **SCREEN SHOULD DISPLAY DOCUMENT. (TRAINEES MAY SELECT ANY DOCUMENT THEY CHOOSE).** 5.9.2 After you have had a chance to look at this document, hit the clear button to get out of the document viewing. **SCREEN = DISPLAY DESCRIPTORS**
5.10	Return to previous screen	Given access to displayed document, the learners will return to the previous screen. The learners must hit the clear button and their monitors must read: Display Descriptors.	Return to the previous screen. To do this, return down to Select Function line and type 9 OR hit the clear button. **SCREEN = DISPLAY DESCRIPTORS**

Subskill	Performance Objective	Test Items
5.11 Return to Search Filed Document(s) screen	Given access to Display Descriptors screen, the learners will return to Search Filed Document(s) screen. Learners must ignore Select Item line and return to Select Function line, inputting number 9. For successful completion, screen should read: Search Filed Document(s).	5.11.1 Let's get out of this screen, too. Please use one of the two methods we just discussed to exit this screen and bring us to the previous screen. **Screen = Search Filed Documents**
5.12 Select Modify Search Request function	Given access to Search Filed Document(s) screen, the learners will select Modify Search Request function. For successful completion, cursor should have moved to first field on the screen.	5.12.1 What function number will allow you to change or modify your search request? **Number 4**
		5.12.2 Please select the option to modify the search request and enter. **The cursor should now have automatically moved to the first field of the screen.**

	Subskill	**Performance Objective**	**Test Items**
5.13	Input Document File Name (review), delete search term and enter	Given successful completion of Modify Search Request, the learners will input Document File Name (review), delete the search term and enter. For successful completion, bottom of screen must read: Request completed.	5.13.1 To modify or change our search request we must delete the previous information (in this case, we must delete the search "em clients*" and we will now look for a specific document. Type in review for the Document File name and delete the search term "em clients*." Hit enter. **SCREEN = REQUEST ACCEPTED AND 1 DOCUMENT SHOULD HAVE BEEN FOUND.** 5.13.2 How many documents were found? **ONE**

SUBSKILL	PERFORMANCE OBJECTIVE	TEST ITEMS
5.14 Select function to Display Descriptors	Given successful completion of search request, the learners will select the function to Display Descriptors. For successful completion, Display Descriptors screen must appear with one document appearing -- "review."	5.14.1 How many documents were found in the search request? **ONE** 5.14.2 Please select the function that will allow you to display the descriptors. **SCREEN = DISPLAY DESCRIPTORS** 5.14.3 What is the name of the document and what is the subject of the document? **NAME = REVIEW** **SUBJECT = DISOSS REVIEW QUESTIONNAIRE**

	Subskill	**Performance Objective**	**Test Items**
5.15	Select item number of the document, select the function which will bring the document into the permanent store and enter	Given access to Display Descriptors screen, the learners will select the item number of the document, select the function which will bring the the document into the permanent store and enter. For successful completion, monitors must display: Get Document to Permanent Store.	5.15.1 Select the function that will bring the document into your permanent store. **Screen = Get Document Select Menu** 5.15.2 At this screen you have the option of bringing the document into your permanent store (or if you were accessing the 8100 system through a PC, you could bring the document into your PC). Select the appropriate option to bring the document into your permanent store. **Screen = Get Document to Permanent Store.**

	Subskill	**Performance Objective**	**Test Items**
5.16	Rename the document "xxreview" (fill in your initials where xx appears) Select option 2 for later	Given access to Get Document to Permanent Store, the learners will rename the document as "xxreview," filling in their initials where xx appears and will select option 2 for later. For successful completion, screen must indicate "Request Accepted."	5.16.1 At the Doc. Local Name field, please re-name this document by putting in your initials in front of the word review. Select option 2 for later and hit enter. **SCREEN = REQUEST ACCEPTED**
5.17	Delete Search Requests	Given access to the List Status of Search Activities menu, the learners will delete all search requests. Success of this function will have no outstanding search requests on learners' systems.	5.17.1 Go to the List Status of Search Activities screen and delete all search requests. **ALL SEARCH REQUESTS DELETED.**
5.18	Return to main menu	Given access to Display Descriptors screen and instructions to get to main menu, the learners will return to main menu. For successful completion, monitors must read: DISOSS Main Menu.	5.18.1 Please return to the Main Menu now. **SCREEN = MAIN MENU**

	SUBSKILL	PERFORMANCE OBJECTIVE	TEST ITEMS
6.1	Describe purpose and function of Distribute/File a Document	Given a description of Distribute/File function, the learners will describe purpose and function of Distribute/File a Document. This description must be in the learners' own words and must refer to "distributing a document to another user while filing the document to the Host or Mainframe computer."	6.1.1 What functions can you perform when you access the Distribute/File a Document option? **I CAN DISTRIBUTE A DOCUMENT TO ANOTHER USER WHILE AT THE SAME TIME FILE THE DOCUMENT TO THE HOST.**
6.2	Select option 3 (Distribute)	Given access to the DISOSS Main Menu, the learners will select option 3 (Distribute). For successful completion, the screen must display: Distribute Select Menu.	6.2.1 Select the appropriate option that will allow you to distribute a document **SCREEN = DISTRIBUTE SELECT MENU**
6.3	Access Help for Distribute and File Local Document	Given access to Distribute Select Menu, the learners will access help for Distribute and File Local Document. For successful completion, the screen must display: Distributing and Filing Local Documents or Memos.	6.3.1 Access the Help function for the line: Distribute and File Local Document **SCREEN = DISTRIBUTING AND FILING LOCAL DOCUMENTS OR MEMOS**

	SUBSKILL	PERFORMANCE OBJECTIVE	TEST ITEMS
6.4	Read Help text and clear out of help	Given access to Help function, the learners will read help text and clear out of help. For successful completion, the learners must read the text and after clearing, the screen must read: Distribute Select Menu. Learners must answer questions concerning the Help text.	6.4.1 According to the Help text, for what purpose do we input "descriptive information?" **IT'S USED LATER TO FIND A DOCUMENT WHEN YOU DO A SEARCH.** 6.4.2 What does the + symbol next to a given field indicate? **THE + BESIDE THE FIELD INDICATES THAT IT IS REQUIRED.**
6.5	Select option 1 (Distribute and File Local Document)	Given access to Distribute Select Menu, the learners will select option 1 (Distribute and File Local Document). For successful completion, the screen must read: Distribute and File Local Document.	6.5.1 Select the appropriate option to distribute and file a local document. **SCREEN = DISTRIBUTE AND FILE LOCAL DOCUMENT**

	SUBSKILL	PERFORMANCE OBJECTIVE	TEST ITEMS
6.6	Fill in Document Name, Document Class, Subject, Search Term, RRR	Given access to Distribute and File Local Document, the learners will fill in Document Name, RRR. All of these fields must be correctly filled in at the appropriate lines. The document is "DOSF."	6.6.1 Please send the document "dosf" you created the other day. To do this, fill in the document name, specify the class as MEMO, include a brief description about the document in the subject line, and input the search term "training." Indicate "yes" for RRR (we will discuss this later). DO NOT ENTER yet. **SCREEN SHOULD HAVE APPROPRIATE FIELDS FILLED IN.**
6.7	Define RRR	Given access to Help function, the learners will define RRR. This definition must be found in the Help function and accessed by positioning cursor on specific line. Screen must read: Return Receipt Requested and learners must clear out of help function. Learners' definition must be in their own words.	6.7.1 Access Help for specific information on RRR. What is the definition of RRR? **RRR STANDS FOR RETURN RECEIPT REQUESTED. YOU SELECT OPTION 1 FOR "YES" IF YOU WANT CONFIRMATION BACK THAT YOUR DOCUMENT WAS RECEIVED.**

	Subskill	**Performance Objective**	**Test Items**
6.8	Select option to attach a message to the document	Given successful completion of correctly filled in fields, the learners will select option to attach a message to the document. Correctly filled in option number should read: 1 (Yes).	6.8.1 Select the appropriate option to send a message along with this document. **Number 1 should be typed by the word "Message:"**
6.9	Fill in Recipient Name and Address	Given Recipient's name and address, the learners will fill in Recipient Name and Address. Correctly filled in Name must read: MROWELL address: NEWYORK	6.9.1 Please fill in the recipient name and address with my name and address. **Recipient Name = mrowell OR MROWELL** **Address = newyork OR NEWYORK**
6.10	Process "later" and enter	Given all fields are correctly filled in, the learners will process "later" and enter. For successful completion, cursor must be positioned at Message line.	6.10.1 Select the option to process this "later." **Cursor should be positioned at message line.**

SUBSKILL	**PERFORMANCE OBJECTIVE**	**TEST ITEMS**
6.11 Type message and enter	Given access to Message line, the learners will type message and enter. The message must refer to obtaining instructor's feedback on document being sent. For successful completion, bottom of screen must read: Request accepted-enter next function to continue. Trainees must include their names.	6.11.1 You can type up to 256 characters for your message. Please type a brief message to me and remember to type your name in the message since your TRAIN id will appear and I won't be able to tell who is sending me this message. **REQUEST ACCEPTED MUST APPEAR ON SCREEN AND TRAINEES NAMES MUST BE INCLUDED IN MESSAGE.**
6.12 Return to Distribute Select Menu	Given successful completion of distributing a document, the learners will return to Distribute Select Menu. For successful completion, learners must enter 9 or press C button to left of keys. Screen must read: Distribute Select Menu.	6.12.1 Please return to the Distribute Select Menu now. **SCREEN = DISTRIBUTE SELECT**
6.13 Select option to List Status of Your Distribution Activities	Given access to Distribute Select Menu, the learners will select option to List Status of Your Distribution Activities. For successful completion, screen must read: Status of Your Distribution Activities.	6.13.1 Select the option that will verify whether or not you successfully distributed the message and document to me. **SCREEN = STATUS OF YOUR DISTRIBUTION ACTIVITIES**

	SUBSKILL	**PERFORMANCE OBJECTIVE**	**TEST ITEMS**
6.14	Confirm that the document/message was sent and delete the distribution request	Given access to Status of Your Distribution Activities screen, the learners will confirm that the document/message was sent and delete the distribution request. Verification must read: completed. Successful deletion must be indicated on screen under status = deleted.	6.14.1 Please look at the Status column and check to see if the "dosf" document was successfully distributed. **STATUS COLUMNS SHOULD READ "COMPLETED." IF STATUS INDICATES PENDING, TRAINEES SHOULD WAIT BEFORE PROCEEDING.** 6.14.2 If the "dosf" document was successfully distributed, you may now delete it. If not, please clear out of this screen and access the List Status option again. To delete, select the item number of the document and the appropriate number to delete. **STATUS COLUMN = DELETED**

Subskill	Performance Objective	Test Items
6.15 State purpose of of checking the status of distribution activities	Given access to Status of Your Distribution Activities, the learners will state the purpose of checking the status of distribution activities. This be in the learners' own words and must refer to the two purposes for checking the status: 1) To see if document was successfully distributed/filed and 2) To delete distribution/file requests to ensure system is not overburdened.	6.15.1 In your own words, what is the purpose of accessing the List Status of Your Distribution Activities function? **TO CHECK TO MAKE SURE I SUCCESSFULLY DISTRIBUTED MY DOCUMENT OR MESSAGE AND TO DELETE MY COMPLETED DISTRIBUTION REQUESTS SINCE THESE REQUESTS CAN OVERBURDEN THE SYSTEM -- SLOW IT DOWN AND/OR CAUSE SYSTEM FAILURE.**
6.16 Return to DISOSS Main Menu	Given all distribution requests are deleted, the learners will return to the DISOSS Main Menu. The learners must hit the C button twice or enter 90 on function line to return to Main Menu. Screen must read: DISOSS Main Menu.	6.16.1 Please return to the DISOSS Main Menu now. **SCREEN = DISOSS MAIN MENU**
7.1 Select option 3 to distribute	Given access to DISOSS Main Menu, the learners will select option 3 to distribute. For successful completion, the screen must read: Distribute Select Menu.	7.1.1 Please select the distribute option again. **SCREEN = DISTRIBUTE SELECT MENU**

	Subskill	**Performance Objective**	**Test Items**
7.2	Access Help for Distribute Message	Given access to Distribute Select Menu, the learners will access Help for Distribute Message. For successful completion, screen must read: Distributing a Message.	7.2.1 Access the Help function for the Distribute Message line. **Screen = Distributing a Message**
7.3	Read Help text and clear out of function	Given access to Help function on Distributing a Message, the learners will read Help text and clear out of function. To verify information is being read, the learners must respond to instructors questions about message function. For successful completion of clearing out of help function, the learners must hit the C button to the left of the keys and screen must read: Distribute Select Menu.	7.3.1 Please read this text. How many lines can you use when typing in a message? **Five lines** 7.3.2 Where do recipients access the messages you send to them? **In their mail-logs.**

	Subskill	Performance Objective	Test Items
7.4	Select option 3 (Distribute Message)	Given access to Distribute Select Menu, the learners will select option 3 (Distribute Message). For successful completion, screen must read: Distribute a Message.	7.4.1 Please select the appropriate option to distribute a message and enter. **Screen = Distribute a Message**
7.5	Select individual(s) to whom message will be sent	Given a current Office Systems Services Client Directory, the learners will select individual(s) to whom message will be sent. The learners must select at least one individual from OSS Client Directory.	7.5.1 Refer to the OSS Client Directory now and find at least one person to whom you would like to send a message. **At least one individual from OSS Client Directory must be selected by each trainee.**
7.6	Type message and enter Addressing information	Given OSS client directory, the learners will type message and enter Addressing information. The content of message will be left to the discretion of the individual. Recipient Name and Address must be exactly the same as referred to in the OSS Client Directory. RRR must be indicated as 1 (Yes).	7.6.1 Please type your message and do not enter yet. After the message is typed, fill in 1 for RRR and input the individual's name and address. **Screen = typed message, recipient's name and address and 1 for RRR.**

	SUBSKILL	**PERFORMANCE OBJECTIVE**	**TEST ITEMS**
7.7	Send message, choosing option "later"	Given accurate input of Recipient Name(s) and Address(es), the learners will send message, choosing option "later." For successful completion, screen must read: Message distributed.	7.7.1 Please note that the default processing option is "now." Let's send this message later since we are not in a great hurry. Please select the "later" processing option and hit enter. **SCREEN = REQUEST ACCEPTED**
7.8	Return to previous screen	Given Access to Distribute a Message screen, the learners return to previous screen. For successful completion, screen must read: Distribute Select Menu.	7.8.1 Please return to the previous screen. **LEARNERS ENTER 9 OR PRESS CANCEL KEY TO RETURN TO PREVIOUS SCREEN. SCREEN = DISTRIBUTE SELECT MENU**
7.9	Access List Status of Distribution Activities	Given access to Distribute Select Menu, the learners access List Status of Distribution Activities Screen must read: Status of Your Distribution Activities.	7.9.1 Please access the function that will allow you to check the status of your distribution activities. **SCREEN = STATUS OF YOUR DISTRIBUTION ACTIVITIES**

	Subskill	**Performance Objective**	**Test Items**
7.10	Confirm Message(s) were sent and delete requests	Given access to Status of Your Distribution Activities, the learners will confirm message(s) were sent and delete requests. Under status, must read "completed." After deleted, under status must read: "deleted."	7.10.1 Just as we confirmed that we successfully distributed the "dosf" document, we now want to confirm that we successfully distributed the message. Since we selected processing option "later," some of you may not have "completed" under your status column for the message. If anyone has a "pending" under the status column, please hit the clear button and go back into List Status function. Keep doing this until "completed" is displayed for your message. Once confirmed, please delete your request. **SCREEN = UNDER STATUS -- DELETED.**

	Subskill	Performance Objective	Test Items
7.11	Exit DISOSS	Given successful completion of message distribution, the learners will exit DISOSS. The learners must hit the immediate command key OR enter 99 on next function line. For successful completion, screen must read: Enter Command:	7.11.1 Please exit DISOSS now. To do this, you may hit your Imm Cmd key or type 99 on "Select function" line. Choose one of these two methods and exit DISOSS now. **Screen = Enter Command:**
8.1	Describe purpose and function of Mail Log	Given a description of the Mail Log, learners will describe purpose and function of Mail Log. This description must be in the learners' own words and must include: "To see or print messages/documents sent to you by other DISOSS users. To see mail items of individuals for whom you work."	8.1.1 What functions can you perform by accessing the Mail-log? Please state this in your own words. **You access the Mail-log to see and/or print messages/ sent to you by other DISOSS users. To see mail items of individuals for whom you work.**

	SUBSKILL	PERFORMANCE OBJECTIVE	TEST ITEMS
8.2	State significance of "M" found in lower right-hand corner of screen and "msg" found on bottom of screen	Given a description of "M" and "msg" "msg." the learners will state the significance of "M" found in the lower right-hand corner of screen "msg" found on bottom of screen. The statement must be in the learners' own words and must include: "Indicates that I (or one of the individuals for whom I work) have received a message through DISOSS."	8.2.1 What does the letter "M" and "MSG" displayed on your screen indicate? **INDICATES THAT I (OR ONE OF THE INDIVIDUALS FOR WHOM I WORK) HAVE RECEIVED MAIL.** 8.2.2 What symbol is appearing on your screen now? **MSG IS APPEARING IN THE CENTER**
8.3	Access DISOSS from DOSF	Given access to screen indicating "Immediate Command:," the learners will access DISOSS from DOSF. The learners must type DISOSS on the enter command line and enter. For Successful completion, screen must read: DISOSS Main Menu.	8.3.1 Please access DISOSS now. **SCREEN = DISOSS MAIN MENU**

	Subskill	Performance Objective	Test Items
8.4	Access Help for Mail Log, read and clear back into DISOSS Main Menu	Given access to DISOSS Main Menu, the learners will access Help for Mail Log, read and clear back into DISOSS Main Menu. Learners must respond to instructor's questions regarding text found in Help function. Screen should read: Mail-log function in Help. After successful access to Help, clear must bring learners to screen reading: DISOSS Main Menu. Mail-log function in help. After successful access to help, clear must bring learners to screen reading: DISOSS Main Menu.	8.4.1 Please access Help to get more information about the Mail-log. **Screen = Mail-Log Function** 8.4.2 How can you get a listing of the people for whom you work? **By entering 7 on function line to Display Recipient List.** 8.4.3 Please return to the DISOSS Main Menu now. **Screen = DISOSS Main Menu**

	Subskill	Performance Objective	Test Items
8.5	Select option 4 (Mail-Log)	Given access to DISOSS Main Menu, the learners will select option 4 (Mail-Log). For successful completion, screen must read: Mail-log Select Menu.	8.5.1 Let's look at the Mail-log now. Select the appropriate option to bring you into the Mail-log. **Screen = Mail-log Select Menu**
8.6	Identify tag	Given definition of the term "tag," the learners will identify a tag. This identification must include: tag is limited to one character and the N tag refers to New Mail. If deleted, from Mail-log select Menu, all mail items would appear.	8.6.1 Underline the items below which are valid tags: 1. TAG 2. R 3. N 4. GR 8.6.2 What does the letter "N" indicate as it appears on the Mail-log Select Menu? **New Mail Items or New**

SUBSKILL	PERFORMANCE OBJECTIVE	TEST ITEMS
8.7 Define Recipients	Given access to the "Display Mail-log Entries Screen" and a description of recipients, the learners will define recipients. This must include the identification of the learners' principals (individuals for whom the learners work).	8.7.1 When you return to your office and access the the "Display Recipients" function, what names will appear as recipients? **EACH LEARNER MUST IDENTIFY THEMSELVES AND ANY INDIVIDUALS FOR WHOM THEY WORK.**
8.8 Select option 7 (Display Recipient List)	Given access to the Mail-Log Select Menu, the learners will select option 7 (Display Recipient List). For successful completion, screen must read: Recipient List.	8.8.1 Please select the option that will allow you to see the Recipient List. **SCREEN = RECIPIENT LIST**

	Subskill	**Performance Objective**	**Test Items**
8.9	Select option 1 (Display Mail-Log Entries)	Given access to the Mail-Log Select Menu, the learners will select option 1 (Display Mail-Log Entries). For successful completion, screen must read: Mail-log Owner.	8.9.1 Since this is a training ID, there are no other people for whom mail is received. Let's look at the mail received for this ID by selecting item 1 and the option that will allow us to display mail-log entries. Please do this now. **SCREEN = MAIL-LOG OWNER (AND TRAINEE'S TEMPORARY ID I.E., TRAIN4N4, ETC.)**

	SUBSKILL	**PERFORMANCE OBJECTIVE**	**TEST ITEMS**
8.10	Define functions of print, respond, view, change, pass, delete, copy, insert	Given access to "Mail-log Entries" screen and functions handout, the learners will define functions of print, respond, view, change, pass delete, copy, insert. These definitions must be in the learners own words and must reflect the descriptions in the handout.	8.10.1 Within the Mail-log entries screen you have the options of print, respond, view, change, pass, delete, copy and insert. Briefly explain what each of these functions will allow you to do with the documents/messages in your Mail-log. **PRINT = PRINT THE DOC TO 5210 PRINTER.** **DELETE = ERASE FROM MAIL-LOG** **RESPOND = ANSWER USER WHO SENT DOCUMENT OR MESSAGE** **VIEW = LOOK AT DOCUMENT** **CHANGE = ALTER DOC DESCRIPTION** **PASS = SEND DOCUMENT TO ANOTHER USER** **COPY = COPY DOCUMENT INTO MY PERMANENT STORE IN DOSF** **INSERT = PUT IN A NOTE IN MAIL-LOG TO REMIND MYSELF OF DATE.**

SUBSKILL	PERFORMANCE OBJECTIVE	TEST ITEMS
8.11 View a document in Mail-log	Given access to Mail-log with document descriptors displayed, the learners will view a document in Mail-log. The document must be displayed on the screen.	8.11.1 Choose one of the documents in your Mail-log and select the appropriate function to view it. **DOCUMENT MUST BE DISPLAYED ON SCREEN.**
8.12 Pass a document to another user	Given access to Mail-log with document descriptors displayed, the learners will pass a document to another user. The learners must address this document to one of the other training accounts.	8.11.2 Please exit from viewing the document. **LEARNERS PRESS CANCEL KEY.** Please pass the document you were just viewing to another person in the training class. **LEARNERS SELECT THE DOCUMENT AND FUNCTION FOR PASS, FILLING IN A TRAINING ID AND ADDRESS.**

	Subskill	**Performance Objective**	**Test Items**
8.13	Copy a document into the permanent store	Given access to Mail-log with document descriptors displayed, the learners will copy a document into the permanent store. Learners must choose any document in their Mail-logs and copy to permanent store. The document must be named "test."	8.13.1 Please choose any document in your Mail-log and select the function that will copy the document to your permanent store. Please name the document "test". After you have performed this function, please exit DISOSS and check to see that the document "test" is in your permanent store. **LEARNERS CHOOSE ANY DOCUMENT AND SELECT FUNCTION 7-COPY TO BRING TO PERMANENT STORE RENAMING DOCUMENT "TEST". THEY MUST EXIT DISOSS AND CHECK THE LIST OF ALL THE DOCUMENTS IN THEIR PERMANENT STORES.**

	Subskill	Performance Objective	Test Items
8.14	Respond to a message	Given that the learners receive new mail message, the learners will respond to a message. Learners must access the appropriate function in their Mail-log to respond to the message they received.	8.14.1 Notice that you have new mail? You should see the letter "M" appear on your screen. Please go into your mail-log and answer the mail you just received. **Learners must exit DISOSS, return to Mail-log and respond to the mail message they received from another training account.**
8.15	Print a document	Given a new document in the Mail-logs, the learners will print a document. This must include exiting DISOSS to start the print queue.	8.15.1 Please print the document that was just sent to you and after sending to the queue, remember to exit DISOSS to start the queue. **Learners print documents to printer in training room.** Please return to your mail-log.

	SUBSKILL	PERFORMANCE OBJECTIVE	TEST ITEMS
8.16	Delete unwanted Mail	Given access to displayed descriptors in Mail-log, the learners will delete all unwanted mail. This must include, for training purposes, the deletion of all documents in the training accounts' Mail-logs.	8.16.1 Please select the appropriate function to delete all the mail in your training account. You should always act upon your mail, deleting unwanted documents or messages, passing or copying to permanent store when appropriate. **ALL TRAINING ACCOUNT MAIL-LOGS ARE EMPTY.**

APPENDIX H

Instructional Strategy

Instructional Strategy

March 30, 1989
Revised 4/15/89

Preinstructional Activities:

MOTIVATION: A brainstorming activity will be conducted prior to the first lesson of DISOSS.

1) The trainer will ask the class to identify their primary responsibilities in performing their jobs (i.e., filing, preparing correspondence, etc.) as tasks are identified, the trainer will record these on one side of the board.

2) The trainer will then ask the trainees what channels of communication they use to perform all their responsibilities in the office. The trainer will give an example of one channel of communication -- the telephone. As trainees identify channels of communication, the trainer will record these on the board.

When a comprehensive list is recorded, the trainer will introduce DISOSS as another communication channel that the trainees will find useful in conducting their daily tasks. The trainer will also identify DISOSS as a useful tool in performing certain of the trainees' responsibilities. As each of DISOSS' functions are introduced, the trainer will identify how the particular function will assist trainees in performing their jobs.

OBJECTIVES: A handout (page 1) will be given to each trainee and displayed on the overhead projector. This handout visually depicts what the trainees will be able to do after learning about DISOSS. Each function or lesson will be discussed.

PREREQUISITE: SKILLS An Entry Behaviors test will be administered prior to training. Those trainees who do not demonstrate prerequisite skills, will receive remedial training.

Testing

ENTRY: BEHAVIORS Prior to instruction, the trainees will receive a brief Entry Behaviors test to confirm trainees' DOSF (Distributed Office Support Facility) skills. DOSF is the text editor of the IBM 8100 system. Prior to DISOSS, trainees must be able to sign on to the IBM 8100 system, work with the keyboard, store, clear, retrieve, print documents in DOSF, define basic DOSF terminology and identify the purpose of using DOSF.

PRE-TEST: A Pre-test identical to the Post test will be administered prior to instruction.

POST TEST: A comprehensive Post test will be administered which will cover all the lessons of instruction. It will be a two-part test performed "on-line" rather than with paper and pencil. Trainees will work individually consulting any materials they received in class to complete the test. The test will consist of practical application of functions and description (in the learners' own words) of significance and purpose of various functions.

Objective 1.1 Define DISOSS

Information Presentation

Information: We just saw how DISOSS can be considered as just one more communication channel to help you better perform your jobs. DISOSS stands for Distributed Office Support System -- it is an IBM 8100 software program that resides on the mainframe computer or host in Phoenix. Looking at this display (overhead visual of learners' handout -- page 2), think of the Host or Mainframe computer as a giant PC. In accessing the Distributed Office Support System, instead of one user running a program on a PC, DISOSS allows **all** IBM 8100 users connected to the Mainframe access to the DISOSS Network. The PC on the left is a "Stand Alone" PC. It does not have access to the DISOSS Network. On the right, any individual connected to the 8100 system (as we are) has access to the DISOSS Network, and therefore, the world.

Student Participation

Practice Items: DISOSS stands for Distributed Office Support System. Complete the following sentences which describe how DISOSS acts as a "Distributed Office Support System."

a) DISOSS allows me to communicate to other users linked to the ___________.

b) DISOSS is a software product which resides on a host or __________ ___________ in Phoenix, Arizona.

Feedback:

a) DISOSS Network

b) Mainframe Computer

Objective 1.2 Describe the functions that can be performed through DISOSS

Information Presentation

As we saw from the visual (students have hardcopy of handout) on the objectives of this course, you can perform four major functions within DISOSS. Let's look at the basic functions you can perform using DISOSS (students' page 3 -- instructor displays overhead). You can:

- **File** documents from your permanent store into the DISOSS Host Library.
- **Search** for filed documents and retrieve them from the DISOSS Host Library.
- **Distribute** both documents and messages to users connected to the DISOSS Network
- Access your **Mail-Log** to receive documents and messages sent to you by other users connected to the DISOSS Network

Examples: DISOSS is like an electronic mail package that allows you to save, send and find your "mail" easily. Your "mail" can consist of documents, reports, letters -- any text that you create in DOSF (Distributed Office Support Facility). It also allows you to to receive "mail" from other users connected to the DISOSS network. "Mail" from other users can be short messages, notes and documents.

Student Participation

Practice Items:

a) What are the four main functions of DISOSS?

b) If you think of DISOSS as an electronic mail package, what function would you access if you wanted to get your mail?

c) If you wanted to send some "mail" to another DISOSS user, what function would you access?

d) Within DISOSS, what would you access if you wanted to store a document you created in DOSF?

e) What function would you access if you wanted to find a document you saved in DISOSS?

Feedback:

a) File Documents, Search Filed Documents, Distribute OR Send Documents/Messages, and Receive Documents and Messages through the Mail-log.

b) Mail-Log

c) Distribute

d) File

e) Search

Objective 1.3 Recognize DISOSS Network Structure

Information Presentation

Information: The DISOSS network structure consists of all the American Express offices connected to DISOSS (display overhead). The "DISOSS Network Structure" (students' page 4) shows all the American Express offices we can reach through DISOSS. As you can see from this visual, you can communicate to users in locations such as Sydney, Hong Kong, and London.

Included in this network are other programs or User Agents: PS/CICS, PS/PC, All-In-One and IBM 8100 - DISOSS. Although PS/CICS, PS/PC and All-In-One are different programs, you can still communicate with these users because they are also connected to the host in Phoenix through DISOSS. The "IBM 8100 System Connection" (display overhead -- students' page 5) shows you the other programs or User Agents that reside on the Host in Phoenix.

Examples: The DISOSS Network Structure allows PS/CICS users to communicate with IBM 8100 - DISOSS users. All-In-One users can communicate with PS/CICS users. All users accessing PS/CICS, PS/PC, All-In-One, IBM 8100-DISOSS who are connected to the DISOSS Network can communicate with each other.

Student Participation

Practice Items: Referring to the "DISOSS Network Structure Handout" and the "IBM 8100 System Connection" handout, answer True or False to the following statements.

a) With the current DISOSS Network Structure, we can communicate with American Express offices in Tokyo.

b) Only IBM 8100 DISOSS users can communicate with American Express offices worldwide.

c) With the current DISOSS Network Structure, we can communicate with Moscow.

d) IBM 8100 DISOSS users can communicate with PS/CICS users connected to the DISOSS Network.

e) All-In-One users linked to the DISOSS Network **cannot** communicate with PS/CICS users linked to the DISOSS Network.

Feedback: a) True

b) False

c) False

d) True

e) False

Objective 1.4 Use the Office Systems Services Client Directory

Information Presentation

Information: As you can see in the attached list, the OSS Client Directory includes the user's Name, Location, User Agent, Network ID, Network Address and Scan Code (when available). You will be receiving a complete list of **all** the users connected to the DISOSS Network at the end of class, but for now -- please refer to the "abbreviated version" of the client directory. The User Agent is the program the user accesses to communicate through the network. Our User Agent is the IBM 8100 DISOSS system, abbreviated in the Client Directory as 8100. When communicating through the network, it is important that you note the exact spelling of the Network ID and the Network Address. The system will reject any variations. The Network ID and the Network Address are the two critical pieces of information necessary to successfully communicate through the DISOSS network.

Examples: Referring to the first page of the OSS Client Directory, you can communicate with:

Name	Network ID	Network Address
Hilary Allemann	HALLEMAN	BROC
Daphne Adams	DADAMS	SALTLAKE
Claire Aidem	CAIDEM	NEWYORK
Tom Albano	TALBANO	WROC
Elizabeth Allison	EALLISON	FTLAUDER

NonExamples: Although these individuals are linked to the Network Structure, you could not communicate with them through DISOSS:

Name	Network ID	Network Address
Hilary Allemann	**BROC**	**HALLEMAN**
Daphne Adams	**8100**	SALTLAKE
Claire Aidem	CAIDEM	**NEW YORK**
Tom Albano	TALBANO	**PHOENIX**
Elizabeth Allison	**ALLISE**	**FT. LAUDERDALE**

Student Participation

Referring to the Office Systems Services Client Directory, please answer the following questions:

Practice Items:

a) If you wanted to communicate with Linda Anderson, what Network ID and Network Address would you use?

b) What is the Network Address for Leonie McCabe and what program does she use?

c) How many different programs does Nancy Bailey use? What are they?

d) If you wanted to communicate with John Gatford, what Network ID and Network Address would you use?

Feedback:

a) LANDERSO, NEWYORK

b) BROC, PS/PC

c) Two; All-In-One and IBM 8100 - DISOSS

d) JGATFORD, BRIGHTON

Objective 1.5 Identify network support

Information Presentation

Information: (Display students' page 6 visual.) The DISOSS network is supported by Office Systems Services in New York and Phoenix. If you should have any problem using DISOSS, you should first call the NY Office Systems Services Help Desk at 3-3881. After regular business hours (9:00 a.m. to 5:00 p.m.), you should call the Phoenix Office Systems Services Help Desk at (602) 492-4188 or after hours in Phoenix you can call the Beeper Number. Support is available whenever you need it from the NY Help Desk and after hours, from the Phoenix Help Desk. For your reference, this information is contained on page 6 of your manuals.

Examples: Your boss has an important 11:00 a.m. meeting. He or she needs a document that your colleague sent you through DISOSS. You are unable to print this document and none of your co-workers familiar with DISOSS are available to help you. What would you do? -- You could call the NY OSS Help Desk to get help immediately.

Student Participation

Practice Items:

a) It is 8:00 p.m. and your boss has asked you to send a document to his colleague in Brighton, England. You have verified the individual's DISOSS name and address, but you are receiving a message in DISOSS telling you that you have not successfully sent the document. None of your colleagues familiar with DISOSS are available to assist you. What will you do?

b) If you should have a problem or question regarding DISOSS, what Office Systems Services offices are available to assist you?

c) During normal business hours, which of these offices would you call first?

Feedback:

a) Call the Phoenix Help Desk

b) New York and Phoenix Help Desk

c) New York

Objective 1.6 Define DISOSS naming conventions

Information Presentation

Information: All users connected to the DISOSS network have a Network ID. As you can see on page 7, the Network ID is is the first letter of the individual's first name followed by the first seven letters of the individual's last name for a total of 8 characters. If a user has a last name with less than seven letters, than the DISOSS name or Network ID is defined as the user's entire last name. One program -- All-In-One -- has a different naming convention. Refer to the OSS Client Directory if you are unsure as to which application the "Receiver" is using.

Examples: If Fawn Hall is a DISOSS user to be added to the DISOSS network, her Network ID would be FHALL.

Henry Kissinger = HKISSING or hkissing
Gene Kelly = JKELLY or jkelly
Mary Lou Rhetton = MRHETTON or mrhetton

NonExamples: Mary Lou Rhetton = MLRHETTO
Henry Kissinger = HKISSINGER
Gene Kelly = GENEKELL

Student Participation

Practice Items:

a) Although these individuals have not yet been added to the DISOSS network, write their DISOSS names.

Clint Eastwood
F. Scott Fitzgerald
Rich Little

b) What is your Network ID? How did you determine that this is your Network ID?

Feedback:

a) CEASTWOO
FFITZGER
RLITTLE

b) The learners will identify their Network ID by selecting the first initial of their first names and the first seven letters of their last names (in the event the learners last names are less than seven letters, the learners will identify their complete last names). After identifying their Network IDs, the learners will explain the naming convention described above which led them to this identification.

Objective 1.7 Identify DISOSS classes and retention periods

Information Presentation

Information: Whenever you File or Distribute documents using DISOSS, you should identify the appropriate class for the document. (Display visual -- students' page 8.) There are many classes. Each class has a specific retention period -- a period of time in which the document will remain within DISOSS. You can decide if this document should remain in DISOSS for several months, a year or forever. Let's look at the "Document Classes and Retention Periods" handout (page 8) to see all the classes available to you.

Examples: If you had a 60-page document which your boss wanted you to file permanently, it would be best to file this important document with the class, RETAIN. This would ensure that the document would never be deleted from the DISOSS host library.

NonExamples: If you were instructed to file a legal document for seven years, you would file it with a Document Class of MEMO.

Student Participation

Refer to the "Document Classes and Retention Periods" handout to answer the following questions:

Practice Items:

a) You need to file a 20-page document that your boss has indicated will not be needed after eight months. What class would you use to file this document appropriately?

b) If you do not enter a document class, what will the system automatically input as the document class?

c) For what length of time will the document remain in the DISOSS Host Library if you do not input a specific document class?

Feedback:

a) RPT1Y

b) DOC

c) 6 Months

Sign onto IBM 8100 System

Information Presentation

Information: In order to access DISOSS, you must first sign onto the IBM 8100 system. When you access DOSF (Distributed Office Support Facility) to prepare a document, you must also sign onto the IBM 8100 System. Let's do this now.

Student Participation

Practice Items: Learners sign onto the IBM 8100 System.

Feedback: Learners must turn up the brightness on their monitors (if necessary) and sign onto the system. The screen should display: **Text Edit and Entry**

Objective: 2.1 Access DISOSS function

Information Presentation

Information: Instructions for accessing DISOSS are provided on page 9 of your manual. Let's turn to this page now. From the "Text Edit and Entry Screen" all you have to do to get into DISOSS is hit the **IMM CMD key** and type: **DISOSS or disoss** and hit the **Enter Key**. Let's do this now.

Student Participation

Practice Items:

a) Learners must hit the Immediate Command key from the **Text Edit and Entry** screen. This will bring the learners to the **Immediate Command** screen. On the Immediate Command Line, the learners must type: **disoss** and hit the **ENTER** key.

b) Let's practice exiting DISOSS now. As you can see on page 9, there are two ways to exit DISOSS. You may type 99 at any line in any of the DISOSS menus that gives you an option to select a function (from the Main Menu, the line is Enter Selection Number OR you may hit the Immediate Command key. Choose either one of these methods and exit DISOSS now.

c) Please get back into DISOSS

Feedback:

a) Learners' monitors should display: **DISOSS Main Menu.**

b) Screens should display: **Enter Command:**

c) Screens should display: **DISOSS Main Menu**

Objective: 2.2 Access Help Function and read Help Text

Information Presentation

Information:	When I first introduced DISOSS to you, we referred to the handout which visually depicts all the functions you can perform in DISOSS. Let's look at this visual again (display overhead of page 1). As you can see, when you access DISOSS, Help is available. Let's look at page 10 now to get instructions on how we can access the Help Function. You get Help in DISOSS the same way you do in DOSF. Now that we are in the Main Menu of DISOSS, let's look at Help. To do this, you must leave your cursor where it is (at the Select Function Line) and press the **Help Key**. Read the information regarding Main Menu Functions.

Student Participation

Practice Items:	a)	Learners press the **Help Key** from the DISOSS Main Menu, leaving their cursors at the Select Function Line.
	b)	According to the Help Information, what is the "default" on the DISOSS Main Menu?
	c)	Please page advance to the next screen and read the remaining Help text. If you access the file function to file a document through DISOSS, where will the document be filed?
Feedback:	a)	Screens should display: **Main Menu Functions**
	b)	Mail-log
	c)	DISOSS Host Library

Objective: 2.3 Identify purpose and procedure for access to Help throughout DISOSS

Information Presentation

Information: We just accessed Help regarding the Main Menu Functions of DISOSS. We can access Help throughout DISOSS to gain information on functions, terminology and procedures. As you can see on page 10, if you are unsure of how to perform a function or the meaning of certain terminology, you can get help by screen or by field.

Example: If you wanted to get more specific information about the Mail-Log from the Main Menu, you would move your cursor to the line: **4-Mail-log** and hit the Help Key. You would then receive specific information from the Help Function about the Mail-log. Let's do this now.

Student Participation

Practice Items:

a) Get Help on Mail-Log and read the information

b) Let's exit Help now.

c) If you wanted to get Help on an entire screen in DISOSS, what would you do?

d) Let's get more specific information about the **Distribute** function of DISOSS. Please do this now.

e) What does the Help information tell you to do if you want to distribute a memo?

Feedback:

a) Screens must read "Mail-log functions" (Display overhead of screen)

b) Learners must hit the Cancel Key and screens should display: **DISOSS Main Menu** (Display overhead of screen)

c) Hit the Help Key when the cursor is at the Enter Selection Number line or at the top of the screen where the title of the screen appears.

d) Learners must move theirs cursors to the Distribute line of the DISOSS Main Menu screen and hit the Help Key. Screens must display: **Distribution Function** (Display overhead of screen)

e) Select Function 3, then choose a function on the Distribute Select Menu.

Objective: 2.4 Exit Help Function

Information Presentation

Information: Now that we have accessed the Help Function for a screen as well as for a specific function, let's exit the Help Function and go back to the DISOSS Main Menu. Instructions for exiting Help are located at the bottom of your screens.

Student Participation

Practice Items: a) From the **Distribution Function** screen for Help, the learners must press the CLEAR key to exit the Help Function.

Feedback: a) Screens should display: **DISOSS Main Menu** (Display overhead of screen)

Objective: 3.1 Read Main Menu

Information Presentation

Information: DISOSS is a "user-friendly" system. You can't go wrong in DISOSS, if you get in the habit of **reading** the screen and the **messages** the system will provide you after you have activated a specific function. In fact, you can perform many functions right now by reading the screens and using common sense. Let's look at the DISOSS Main Menu screen carefully -- read through all the information. (Display overhead of screen.)

Student Participation

Practice Items:

a) If you wanted to respond to a Message, which function would you access?

b) If you wanted to find a document you filed out to the DISOSS Host Library, which function would you access?

c) If you wanted to send a message to a friend who was also linked to the DISOSS Network, which function would you select?

Feedback:

a) Mail-log and/or Option 4

b) Search and/or Option 2

c) Distribute and/or Option 3

Objective: 3.2 Identify procedure for accessing each function

---

Information Presentation

Information: To access any function within DISOSS, you identify the function you wish to select and its corresponding number. You enter the number at the **Enter Selection Number** Line after the colon (:) and press the Enter Key.

Examples: If you wanted to access the Distribute Function from the DISOSS Main Menu, you would type the number three (3) at the **Enter Selection Number** line after the colon and hit the Enter Key.

Student Participation

Practice Items:

a) If you wanted to select a function from the DISOSS Main Menu, how would you do this?

b) If you wanted to access the File function from this menu, what would you enter?

Feedback:

a) At the line reading: **Enter Selection Number**, I would type the corresponding number of the function I wanted to access and would hit the Enter Key.

b) At the **Enter Selection Number** line, I would type the number one (1) and enter.

APPENDIX I

Materials

330

Preinstructional Activity Example

Brainstorming for Job Responsibilities and Communication Channels

TRAINER WRITES ON MARKER BOARD: Job Responsibilities

LEARNERS PROVIDE INPUT AND TRAINER WRITES ON BOARD:

- Answering Calls
- Filing
- Preparing/Typing Documents
- Distributing Documents
- Making Travel Arrangements
- Scheduling Meetings
- Etc.

- PreInstructional Activity -
  Motivation 15 min

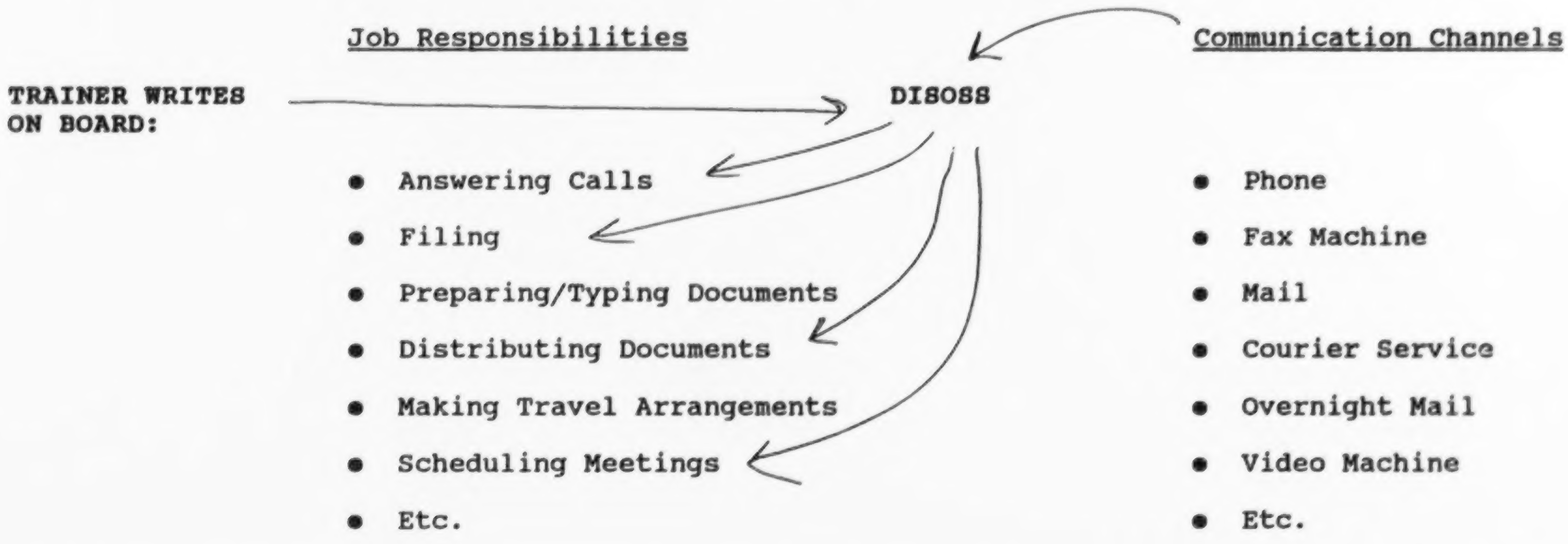
Preinstructional Activity Example

Brainstorming for Job Responsibilities and Communication Channels

TRAINER WRITES ON MARKER BOARD:	Job Responsibilities	Communication Channels
LEARNERS PROVIDE INPUT AND TRAINER WRITES ON BOARD:	● Answering Calls	● **Phone** (trainer provides)
	● Filing	● Fax Machine
	● Preparing/Typing Documents	● Mail
	● Distributing Documents	● Courier Service
	● Making Travel Arrangements	● Overnight Mail
	● Scheduling Meetings	● Video Machine
	● Etc.	● Etc.

Preinstructional Activity Example

Brainstorming for Job Responsibilities and Communication Channels



TRAINER WRITES ON BOARD:

DISOSS

Job Responsibilities

- Answering Calls
- Filing
- Preparing/Typing Documents
- Distributing Documents
- Making Travel Arrangements
- Scheduling Meetings
- Etc.

Communication Channels

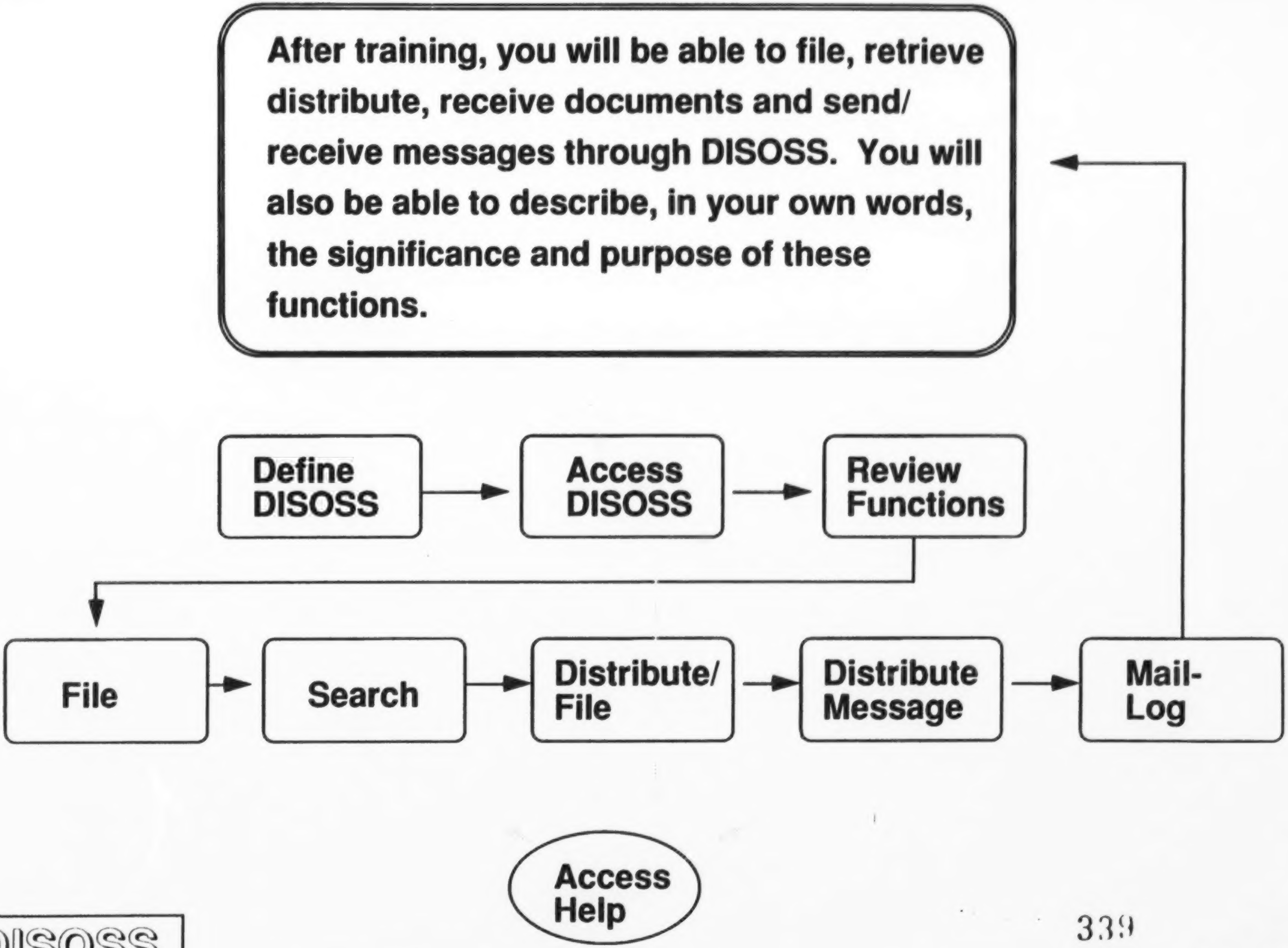
- Phone
- Fax Machine
- Mail
- Courier Service
- Overnight Mail
- Video Machine
- Etc.

TRAINER PRESENTS DISOSS: **"DISOSS -- THE DISTRIBUTED OFFICE SUPPORT SYSTEM -- CAN BE CONSIDERED AS JUST ONE MORE COMMUNICATION CHANNEL TO HELP YOU BETTER PERFORM YOUR JOBS. DISOSS IS AN ELECTRONIC MAIL PACKAGE THAT WILL HELP YOU WITH FILING, DISTRIBUTION AND COMMUNICATION. YOU CAN CUT DOWN ON THE TIME IT TAKES TO MAKE A LOT OF PHONE CALLS TO SCHEDULE A MEETING, FOR EXAMPLE, BY USING DISOSS TO SEND MESSAGES OR DISTRIBUTE MEETING SCHEDULES."**

(Trainer draws lines on Marker Board showing connection between those job responsibilities that DISOSS can help perform.)

DISOSS

DIStributed Office Support System



After training, you will be able to file, retrieve distribute, receive documents and send/ receive messages through DISOSS. You will also be able to describe, in your own words, the significance and purpose of these functions.

Define DISOSS → Access DISOSS → Review Functions

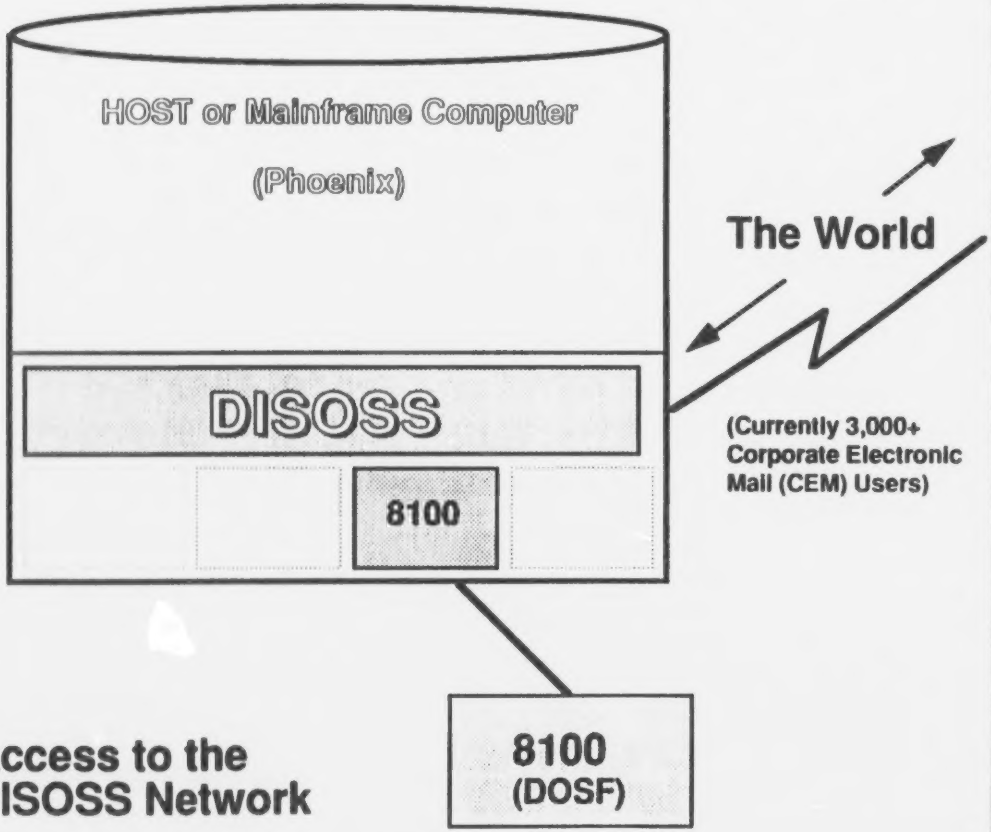
File → Search → Distribute/ File → Distribute Message → Mail-Log

Access Help

DISOSS

- PreInstructional Activity -
Objectives of Session 10 min.

"Stand alone" PC with no link to the world



HOST or Mainframe Computer

(Phoenix)

DISOSS

8100

The World

(Currently 3,000+ Corporate Electronic Mail (CEM) Users)

8100 (DOSF)

Access to the DISOSS Network

NOTE: This is a visual representation and does not reflect technically accurate Host connections.

1.1 Define DISOSS 5 min.

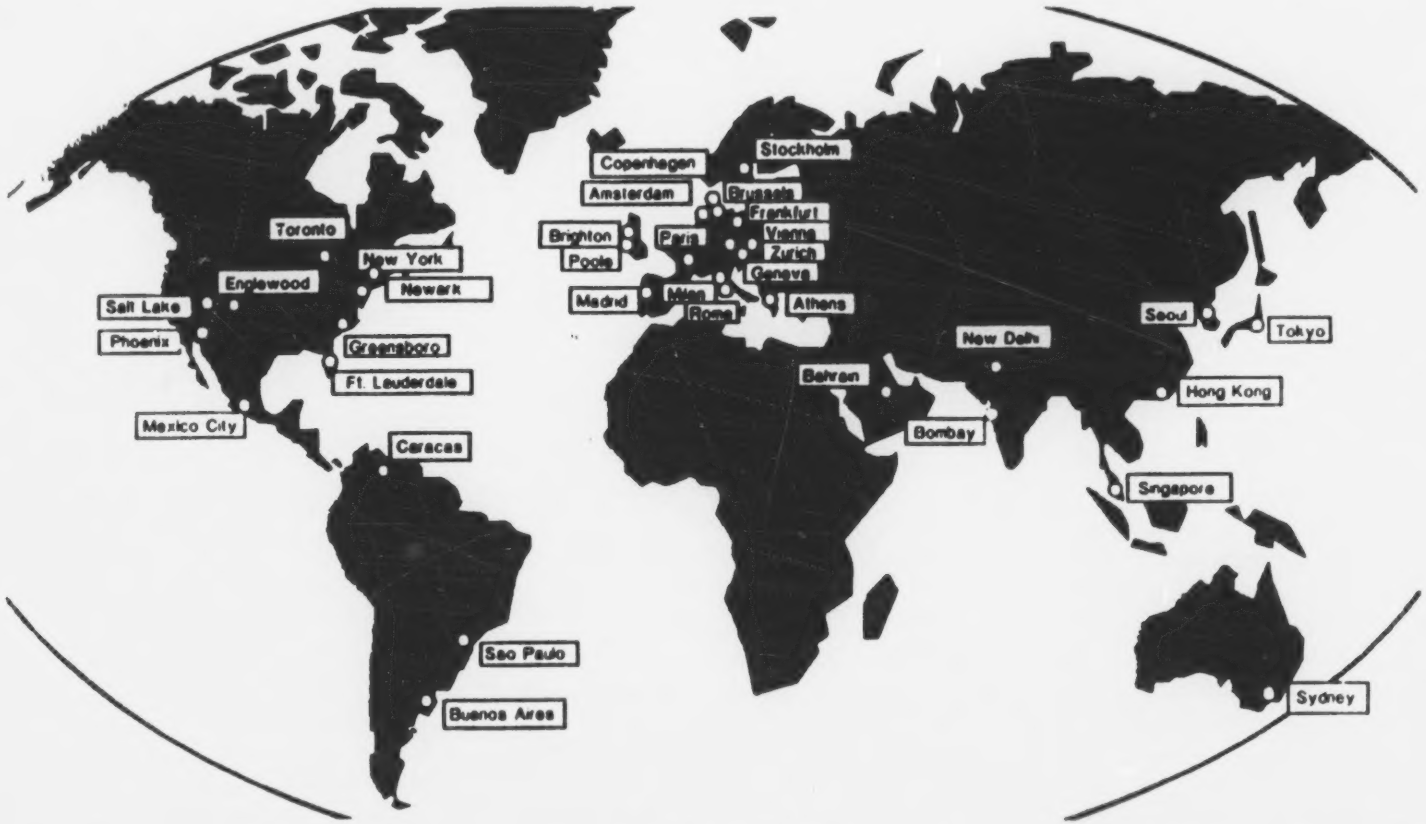
DISOSS

DISOSS stands for Distributed Office Support System. It is the IBM 8100's Electronic Mail Package. It allows you to:

- ✓ **File** documents from Permanent Store into a central document library called the DISOSS Host Library
- ✓ **Search** for these documents from the DISOSS Host Library and retrieve them
- ✓ **Distribute** documents or messages to users connected to the DISOSS Network
- ✓ Receive incoming documents or messages through access to the **Mail-Log**

1.2 Describe DISOSS Functions 5 min.

DISOSS Network Structure


Toronto
New York
Newark
Englewood
Salt Lake
Phoenix
Greensboro
Ft. Lauderdale
Mexico City
Caracas
Sao Paulo
Buenos Aires
Copenhagen
Amsterdam
Brighton
Poole
Madrid
Paris
Milan
Rome
Stockholm
Brussels
Frankfurt
Vienna
Zurich
Geneva
Athens
Bahrain
Bombay
New Delhi
Seoul
Tokyo
Hong Kong
Singapore
Sydney

User Agents (Programs) on the DISOSS Network:

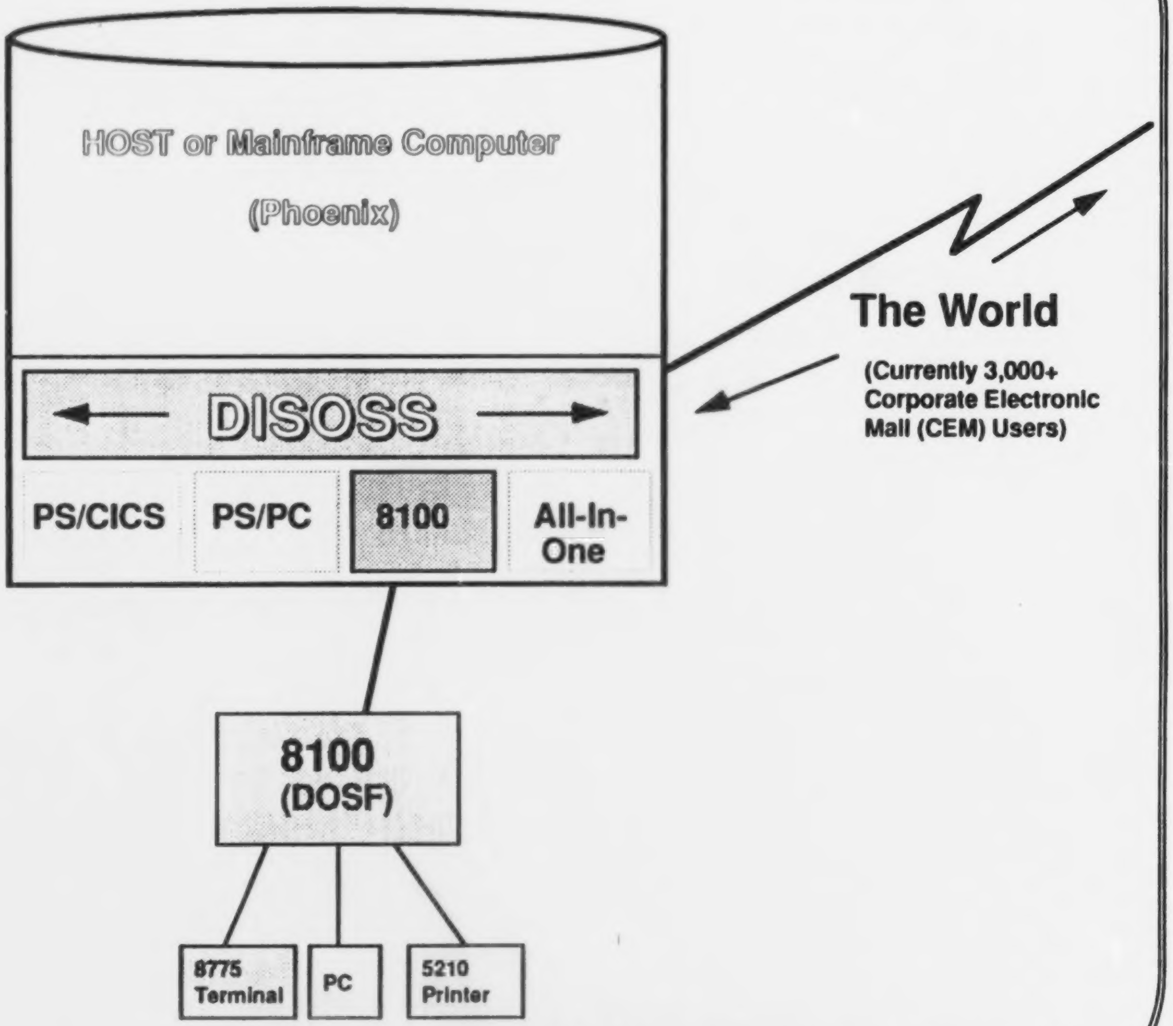
IBM 8100 - DISOSS
PS/CICS
All-In-One
PS/PC

Note: All users accessing programs linked to the DISOSS Network can communicate with each other

1.3 Recognize DISOSS Network Structure 5 min.

BEST COPY AVAILABLE

Connection to the DISOSS Network through the IBM 8100 System using an 8775 terminal



HOST or Mainframe Computer

(Phoenix)

DISOSS

PS/CICS

PS/PC

8100

All-In-One

The World

(Currently 3,000+ Corporate Electronic Mail (CEM) Users)

8100 (DOSF)

8775 Terminal

PC

5210 Printer

1.3 Recognize DISOSS Network Structure 5 min.

NOTE: This is a visual representation and does not reflect technically accurate Host connections.

Employee Name	Employee Location	User Agent	Network ID	Network Address	Scan Code
Nancy Abalos	Phoenix-Arboleda	8100	NABALOS	PHOENIX	2347138
Nick Abbondandelo	Phoenix	8100	NABBONDA	PHOENIX	9542053
Nick Abbondandelo	Phoenix - WROC	PS/CICS	NABBONDA	WROC	
Darryl Abbott	Phoenix - Beardsley	PS/CICS	DABBOTT	WROC	4925623
Elaine Abdo	Fort Lauderdale	8100PC	EABDO	FTLAUDER	4737078
Judy Abdo	Phoenix	8100	JABDO	PHOENIX	2405702
Judy Abdo	Phoenix-WROC	PS/CICS	JABDO	WROC	9541693
Cynthia Abeyta	Salt Lake City-TCOC	PS/CICS	CABEYTA	TCOC	9655772
Raja Abhyankar	Ft.Lauderdale-Headwy	PS/CICS	RABHYANK	WROC	4746236
Fran Abramo	New York-WFC	PS/CICS	FABRAMO	WROC	6402337
Daniel Abrate	Buenos Aires	PS/CICS	DABRATE	WROC	
Marie Accunzo	Hong Kong	PS/PC	MACCUNZO	BROC	8230382
Humberto Aceves	Phoenix - Beardsley	PS/CICS	HACEVES	WROC	4925612
Joe Acevedo	LA/C Systems	PS/CICS	JACEVEDO	WROC	
Yasmin Acosta	New York	8100PC	YACOSTA	NEWYORK	6404608
Nick Adamo	New York-WFC	PS/CICS	NADAMO	WROC	
Brad Adamson	Salt Lake City	PS/CICS	BADAMSON	TCOC	9657190
Bill Adams	Phoenix - WROC	PS/CICS	BADAMS	WROC	9541772
Daphne Adams	Salt Lake City	8100	DADAMS	SALTLAKE	9655225
Hilary Adams	Brighton-PORTLAND	8100	HADAMS	BRIGHTON	8340007
Stone Adams	Brighton, England	8100	SADAMS	BRIGHTON	5554158
Jorge Adan	Ft.Lauderdale-Headwy	PS/CICS	JADAN	WROC	4746054
Mindy Adler	New York - WFC	PS/CICS	MADLER	WROC	
Augie Agate	Phoenix-Pointe	PS/CICS	AAGATE	WROC	
Somasundaram Agniswa	Phoenix - Beardsley	PS/CICS	SAGNISWA	WROC	
Carlos Aguerrebere	Mexico City	PS/CICS	CAGUERRE	WROC	
Soledad Aguilo	Buenos Aires	PS/CICS	SAGUILO	WROC	
Julie Ahern	Waltham, MA	PS/PC	JAHERN	WROC	
Dan Ahlport	Greensboro - NROC	PS/CICS	DAHLPORT	WROC	6685805
Joyce Ahroni	New York - WFC	8100	JAHRONI	NEWYORK	6405975
Dave Aichelman	Phoenix	8100	DAICHELM	PHOENIX	4924181
Dave Aichelman	Phoenix-BEARDSLEY	PS/CICS	DAICHELM	WROC	
Claire Aidem	New York	8100	CAIDEM	NEWYORK	6404334
Tom Albano	Ft.Lauderdale-Headwy	PS/CICS	TALBANO	WROC	4746252
Don Albright	Phoenix	8100	DALBRIGH	PHOENIX	4923950
Steve Alesio	New York	8100	SALESIO	NEWYORK	6404801
Steve Alesio	New York - WFC	PS/CICS	SALESIO	WROC	
Alvin Alexander	Fort Lauderdale-SROC	PS/CICS	AALEXAND	WROC	
Debbie Allan	Phoenix	8100	DALLAN	PHOENIX	4924279
Dawn Allard	Greensboro-NROC	PS/CICS	DALLARD	WROC	
Hilary Allemann	Hong Kong	PS/PC	HALLEMAN	BROC	8440448
John Allen	Phoenix - WROC	PS/CICS	JALLEN	WROC	9541049
Laurie Allen	Phoenix-Beardsley	PS/CICS	LALLEN	WROC	4923959
Peter Allen	Brighton, England	8100	PALLEN	BRIGHTON	5556580
Peter Allen	Brighton - Amex Hous	PS/PC	PALLEN	BROC	5550116
Sandy Allen	Salt Lake City	PS/CICS	SALLEN	TCOC	9655824
Elizabeth Allison	Fort Lauderdale	8100PC	EALLISON	FTLAUDER	4733682
Steve Allnatt	Phoenix	8100	SALLNATT	PHOENIX	4925015

NOTE: The OSS Client Directory is a lengthy document, provided to learners as a separate handout. Relevant pages have been taken from this directory for the purposes of conserving space within this document.

Employee Name	Employee Location	User Agent	Network ID	Network Address	Scan Code
Paul Ashmore	Brighton - Amex	PS/CICS	PASHMORE	BROC	5550082
Mike Atanasio	Phoenix - Beardsley	PS/CICS	MATANASI	WROC	4924871
Dan Ater	Phoenix	8100	DATER	PHOENIX	4920017
Billie Atkinson	Fort Lauderdale-HEAD	PS/CICS	BATKINSO	WROC	
Randall Atkin	Hong Kong	PS/PC	RATKIN	BROC	
Steve Atkins	Phoenix - Beardsley	PS/CICS	SATKINS	WROC	4924514
Martin Augier	Brighton, England	8100	MAUGIER	BRIGHTON	5556400
Juergen Aumueller	Frankfurt, Germany	8100	JAUMUELL	FRANKFUR	1540330
Lisa Austin	Greensboro	ALL-IN-1	AUSTIL	GRNS01	
Pat Austin	Phoenix - Beardsley	PS/CICS	PAUSTIN	WROC	4923989
Sue Austin	Phoenix	8100	SAUSTIN	PHOENIX	9541360
Gordon Ayers	Phoenix - 14th St.	PS/CICS	GAYERS	WROC	2405508
Pam Ayers	Salt Lake City-TCOC	PS/CICS	PAYERS	TCOC	9657202
Carol Babcock	Phoenix	8100	CBABCOCK	PHOENIX	4923851
Carol Babcock	Phoenix - Beardsley	ALL-IN-1	BABCOC	PHXS01	
Henry Babiarz	Phoenix	8100	HBABIARZ	PHOENIX	2405901
Gary Badberg	Phoenix	8100PC	GBADBERG	PHOENIX	4924215
Gary Badberg	Phoenix-BEARDSLEY	PS/CICS	GBADBERG	WROC	
Troy Bagley	Salt Lake City	PS/CICS	TBAGLEY	TCOC	9655777
Karen Baguley	Brighton-AMEX HOUSE	PS/CICS	KBAGULEY	BROC	5550112
Karen Baguley	Brighton - Amex Hous	8100	KBAGULEY	BRIGHTON	5550114
Karen Bagwell	Phoenix - Arboleda	8100	KBAGWELL	PHOENIX	2347017
Kelly Bailey	Salt Lake City	PS/CICS	KBAILEY	TCOC	9655834
Lynn Bailey	Phoenix - Beardsley	PS/CICS	LBAILEY	WROC	4923673
Nancy Bailey	Ft.Lauderdale	ALL-IN-1	BAILEN	FTLS01	
Nancy Bailey	Ft.Lauderdale-Headwy	8100	NBAILEY	FTLAUDER	4746264
Robert Bailey	Brighton-AMEX HOUSE	8100	RBAILEY	BRIGHTON	5556033
Natalie Baines	Brighton - Amex Hse	8100	NBAINES	BRIGHTON	5556811
Carmen Baker	Ft. Lauderdale - Hea	PS/CICS	CBAKER	WROC	4746086
Irene Baker	Phoenix - 14th St.	ALL-IN-1	BAKERI	PHXS01	
Keith Baker	Phoenix - WROC	PS/CICS	KBAKER	WROC	9541126
Lawrence Baker	Phoenix-BEARDSLEY	ALL-IN-1	BAKERL	PHXS90	
Melanie Baker	Ft.Lauderdale-Headwy	PS/CICS	MBAKER	WROC	4746019
Rhonda Baker	Salt Lake City-TCOC	PS/CICS	RBAKER	TCOC	9655483
Maryann Baldo	New York	8100	MBALDO	NEWYORK	6403455
Marcia Balestrino	Phoenix - Beardsley	PS/CICS	MBALESTR	WROC	4923965
Kevin Ballard	Phoenix - Beardsley	PS/CICS	KBALLARD	WROC	4925636
Cecilia Ballesteros	Phoenix	8100	CBALLEST	PHOENIX	9957782
Cecilia Ballesteros	Phoenix - Pointe	PS/CICS	CBALLEST	WROC	
Carlos Baltar	Coral Gables, FL.	PS/CICS	CBALTAR	WROC	4474472
Greg Bangs	New York	8100PC	GBANGS	NEWYORK	6403383
Paul Banker	Phoenix-WROC	PS/CICS	PBANKER	WROC	
Deanna Barber	Salt Lake City-TCOC	PS/CICS	DBARBER	TCOC	9657384
Deanna Barber	Salt Lake City	8100	DBARBER	SALTLAKE	9657384
Jennifer Barber	Phoenix - 14th St.	ALL-IN-1	BARBEJ	PHXS01	
Brian Barker	Brighton, England	8100	BBARKER	BRIGHTON	5555305
Malcolm Barker	Brighton, England	8100	MBARKER	BRIGHTON	5550081
Cheryl Barnett	Fort Lauderdale	8100PC	CBARNETT	FTLAUDER	4733986

Employee Name	Employee Location	User Agent	Network ID	Network Address	Scan Code
Joe Gallo	New York - WFC	ALL-IN-1	GALLOJ	NYCS90	
Lisa Galvin	New York - EROC	8100	LGALVIN	NEWYORK	5985882
Jeri Gamble	Salt Lake City	8100	JGAMBLE	SALTLAKE	9655223
Peter Gamon	Brighton, England	8100	PGAMON	BRIGHTON	5554043
Peter Gamon	Brighton - Amex Hse	PS/CICS	PGAMON	BROC	5556574
Joseph Gandolfi	Fort Lauderdale	8100PC	JGANDOLF	FTLAUDER	4733927
Joseph Gannon	New York	8100	JGANNON	NEWYORK	6402835
Annette Ganschow	Ft.Lauderdale-Headwy	PS/CICS	AGANSCHO	WROC	4746068
Lori Garavuso	New York-WFC	PS/CICS	LGARAVUS	WROC	6402307
Eduardo Garber	Sao Paulo	PS/CICS	EGARBER	WROC	
Carmen Garcia	Coral Gables, FL	ALL-IN-1	GARCIC	FTLS01	
David Garcia	Ft.Lauderdale-Headwy	PS/CICS	DGARCIA	WROC	4746161
Eddy Garcia-Sega	Buenos Aires	PS/CICS	EGARCIAS	WROC	
Joe Garcia	Rio de Janeiro	PS/CICS	JGARCIA	WROC	
Sylvia Garcia	Coral Gables, FL	ALL-IN-1	GARCIS	FTLS01	
Richard Garfein	New York	8100	RGARFEIN	NEWYORK	6403839
Richard Garfein	Coral Gables, FL.	PS/CICS	RGARFEIN	WROC	4474481
Lynda Garguilo	Fort Lauderdale	8100PC	LGARGUIL	FTLAUDER	4737190
Lisa Gariboldi	Ft.Lauderdale-Optima	ALL-IN-1	GARIBL	FTLS01	
Simon Garmendia	Caracas	PS/CICS	SGARMEND	WROC	
Terri Garmoe	Salt Lake City	PS/CICS	TGARMOE	TCOC	9655517
Cindy Garrett	Phoenix - 14th St.	PS/CICS	CGARRETT	WROC	2405422
Sandy Garris	Phoenix - Beardsley	ALL-IN-1	GARRIS	PHXS01	
Sandi Garris	Phoenix	8100	SGARRIS	PHOENIX	4924245
Steve Garvin	Salt Lake City	8100	SGARVIN	SALTLAKE	9655891
Steve Garvin	Salt Lake City-TCOC	PS/CICS	SGARVIN	TCOC	9655891
Felix Garza	Phoenix-WROC	PS/CICS	FGARZA	WROC	
Felix Garza	Phoenix - Beardsley	ALL-IN-1	GARZAF	PHXS01	
Jim Gaster	Salt Lake City-TCOC	PS/CICS	JGASTER	TCOC	9655486
Valerie Gaster	Salt Lake City-TCOC	PS/CICS	VGASTER	TCOC	9655482
Cami Gates	Salt Lake City	8100	CGATES	SALTLAKE	9655301
John Gatford	Brighton, England	8100	JGATFORD	BRIGHTON	5555331
John Gaydosz	Phoenix - Beardsley	PS/CICS	JGAYDOSZ	WROC	4923985
Barbara Gayle	New York	8100	BGAYLE	NEWYORK	6404717
Frances Gee	Brighton, England	8100	FGEE	BRIGHTON	6030298
Jeanne Geeraerts	Phoenix	8100	JGEERAER	PHOENIX	9542981
Lori Geigenbaum	New York - EROC	PS/CICS	LGEIGENB	WROC	5985847
Dottie Gelman	Inglewood CA	PS/PC	DGELMAN	WROC	
Orlando Gemignani	Phoenix - WROC	PS/CICS	OGEMIGNA	WROC	9541998
Orlando Gemignani	Ft. Lauderdale	ALL-IN-1	GEMIGO	FTLS01	
Lorna Genereaux	Salt Lake City	8100	LGENEREA	SALTLAKE	9655015
Wany Gengo	Salt Lake City-TCOC	PS/CICS	WGENGO	TCOC	9657221
Lorraine Genovese	Ft.Lauderdale-Headwy	PS/CICS	LGENOVES	WROC	4746122
Hector Gentile	Buenos Aires	PS/CICS	HGENTILE	WROC	
Phillip Gentille	New York-100CHURCH	PS/PC	PGENTILL	WROC	
Jerry Gentry	Phoenix	8100PC	JGENTRY	PHOENIX	4924455
Jerry Gentry	Phoenix - Beardsley	PS/CICS	JGENTRY	WROC	
Paul Geoghegan	Brighton, England	8100	PGEOGHEG	BRIGHTON	5550026

Employee Name	Employee Location	User Agent	Network ID	Network Address	Scan Code
Joe Markley	Greensboro	ALL-IN-1	MARKLJ	GRNS01	
Ted Markowitz	New York - WFC	PS/CICS	TMARKOWI	WROC	6402953
Steve Mark	Fort Lauderdale	8100	SMARK	FTLAUDER	4733716
Steve Mark	Ft. Lauderdale-SROC	ALL-IN-1	MARKS	FTLS01	
Brendon Marks	Phoenix - Beardsley	PS/CICS	BMARKS	WROC	
Terri Marletta	Phoenix - Beardsley	8100	TMARLETT	PHOENIX	4925085
Mayra Marmol	Coral Gables, FL	ALL-IN-1	MARMOM	FTLS01	
Jim Maroni	Phoenix-BEARDSLEY	PS/CICS	JMARONI	WROC	4924353
Jennie Maroney	Ft.Lauderdale-Headwy	PS/CICS	JMARONEY	WROC	4746239
Candy Marshall	New York - WFC	8100	CMARSHAL	NEWYORK	6403032
Pam Marshall	Salt Lake - TCOC	PS/CICS	PMARSHAL	TCOC	9657063
Tom Marshall	Phoenix-BEARDSLEY	PS/CICS	TMARSHAL	WROC	4924168
Cesar Martinez	Mexico City	PS/CICS	CMARTINE	WROC	
Esther Martinez	New York-100CHURCH	PS/CICS	ECMARTIN	WROC	
Hilma Martin	Fort Lauderdale	8100	HMARTIN	FTLAUDER	4746208
Joanna Martin	Brighton-Amex House	8100	JMARTIN	BRIGHTON	5550153
Kay Martinez	Salt Lake City-TCOC	PS/CICS	KMARTINE	TCOC	9657481
Loretta Martinez	Salt Lake City	8100	LMARTINE	SALTLAKE	9657455
Rayetta Martin	New York	8100	RMARTIN	NEWYORK	6402504
Terri Martinez	Salt Lake City	PS/CICS	TMARTINE	TCOC	9657521
Kathy Martocci	New York	8100	KMARTOCC	NEWYORK	5985889
Johanna Massey	New York	8100	JMASSEY	NEWYORK	5985074
Rita Mastandrea	Sao Paulo	PS/CICS	RMASTAND	WROC	
Shelley Mata	Ft.Lauderdale-Headwy	PS/CICS	SMATA	WROC	4746026
Jim Mate	Fort Lauderdale-HEAD	PS/CICS	JMATE	WROC	
John Mate	Ft.Lauderdale-Headwy	8100	JMATE	FTLAUDER	4746119
Helen Matheos	New York	PS/PC	HMATHEOS	WROC	
Jim Mathews	Salt Lake City	8100	JMATHEWS	SALTLAKE	9652206
Jim Mathews	Salt Lake City-TCOC	PS/CICS	JMATHEWS	TCOC	9652206
Larry Mather	Phoenix	8100	LMATHER	PHOENIX	4924300
Larry Mather	Phoenix - Beardsley	PS/CICS	LMATHER	WROC	
Steve Mathews	Brighton, PORTLAND	PS/CICS	SMATHEWS	BROC	5550088
Gerardo Mathov	Buenos Aires	PS/PC	GMATHOV	WROC	
Rita Matlock	Phoenix-BEARDSLEY	PS/CICS	RMATLOCK	WROC	4924354
Ann Matthews	Brighton, England	8100	AMATTHEW	BRIGHTON	5555382
Leigh Matthews	Vienna, VA	PS/PC	LMATTHEW	WROC	
Ellen Mattingly	LA/C Systems	PS/CICS	EMATTING	WROC	4971510
Carrie Maule	Phoenix	8100	CMAULE	PHOENIX	4924760
Charlie Maule	Phoenix - WROC	PS/CICS	CMAULE	WROC	9542893
Theresa Maung	San Bruno, CA		TMAUNG	SBDU	
Elie Maurice	Ft.Lauderdale-SROC	PS/CICS	EMAURICE	WROC	4737238
Malcolm Maxwell	Brighton, England	8100	MMAXWELL	BRIGHTON	5556366
Kris May	Salt Lake City	8100	KMAY	SALTLAKE	9657989
Cliff Mays	Fort Lauderdale-HEAD	PS/CICS	CMAYS	WROC	
Cliff Mays	Fort Lauderdale	8100	CMAYS	FTLAUDER	4746260
Andy Mazon	Phoenix - WROC	8100	AMAZON	PHOENIX	9542143
Andy Mazon	Phoenix - WROC	PS/CICS	AMAZON	WROC	
Leonie McCabe	Sydney, Australia	PS/PC	LMCCABE	BROC	8861777

Network Support

HELP DESK

New York Help Desk:	**(212) 640-3881**
Phoenix Help Desk:	**(602) 492-4188**
Beeper*	**(602) 225-4032**

The Help Desk telephones are covered at all times. Please call the NY Help Desk first -- If assistance is needed after NY working hours (9:00 a.m. - 5:00 p.m.), and after Phoenix working hours (8:00 a.m. - 4:30 p.m.), there is a 24 hours a day, 7 days a week beeper number noted above. An Office Systems representative will return your call.

*** Beeper Instructions:**

1. **Dial the beeper number from any touch-tone phone.**
2. **Listen for a ring followed by a beep.**
3. **You have 8 seconds to dial a numeric message of up to 10 digits (your phone number). If you are located outside of Phoenix, please include your area code. After entering the digits, depress # key. You will hear an immediate beep or a fast busy signal.**
4. **The numeric message you keyed in will appear on the beeper display and the OSS representative will call you.**

1.5 Identify Network Support 5 min.

NAMING CONVENTIONS

In order to send documents and messages to other users with DISOSS, you must use their Network ID. The Requestor (sender) and Recipient (Receiver) names for the DISOSS Network are identified in the following way:

- The first letter of the first name followed by the first seven letters of the last name (for a total of 8 letters). There is no space between these characters and they can be entered as lower or upper case letters.
- If the last name is fewer than seven letters, the entire name is used.

Examples (these individuals are not on the DISOSS Network. This is simply to demonstrate the DISOSS Network Naming Convention)

Sender/Receiver   Network ID

Fawn Hall = FHALL or fhall
Henry Kissinger = HKISSING or hkissing
Gene Kelly = GKELLY or gkelly
Mary Lou Rhetton = MRHETTON

NOTE: One program or User Agent on the DISOSS Network does not follow the above naming convention. This program or User Agent is All-In-One. If you are sending documents or messages through the DISOSS Network to an All-In-One user, the naming convention for this program is the first five letters of the last name followed by the first initial of the first name (i.e., Lisa Gibson's Network ID is gibsol). For a complete listing of all the individuals connected to the DISOSS Network, please refer to the Office Systems Services Client Directory.

1.6 Define DISOSS Naming Convention 5 min.

DOCUMENT CLASSES AND RETENTION PERIODS

CLASS	RETENTION PERIOD	APPROXIMATE DOC SIZE
LEGAL	7 years	Any
CNTRCT	7 years	Any
RETAIN	Indefinite	Any
NOTICE	6 months	1 to 2 pages
MEMO	6 months	1 to 3 pages
MEM1Y	1 year	1 to 3 pages
MEM3Y	3 years	1 to 3 pages
LETTER	6 months	1 to 3 pages
LET1Y	1 year	1 to 3 pages
LET3Y	3 years	1 to 3 pages
DOC	6 months (default)	1 to 10 pages
DOC1Y	1 year	1 to 10 pages
DOC3Y	3 years	1 to 10 pages
REPORT	6 months	10 to 50 pages
RPT1Y	1 year	10 to 50 pages
RPT3Y	3 years	10 to 50 pages
URGENT	6 months	Any

The document class default is DOC and has a 6-month retention period. If a longer retention period is needed, enter the appropriate document class name on the specific file or distribute screen.

Since the distribution process also files the document, it is necessary to indicate the retention period if the default is not desired.

1.7 Identify DISOSS Classes
and Retention Periods 5 min.

SIGNING ON TO DISOSS/EXITING DISOSS

Sign on to DISOSS

1. While logged on to DOSF (Distributed Office Support Facility), press the IMM CMD key.
2. At the Enter Command line, type: **disoss** or **DISOSS**

Exit DISOSS

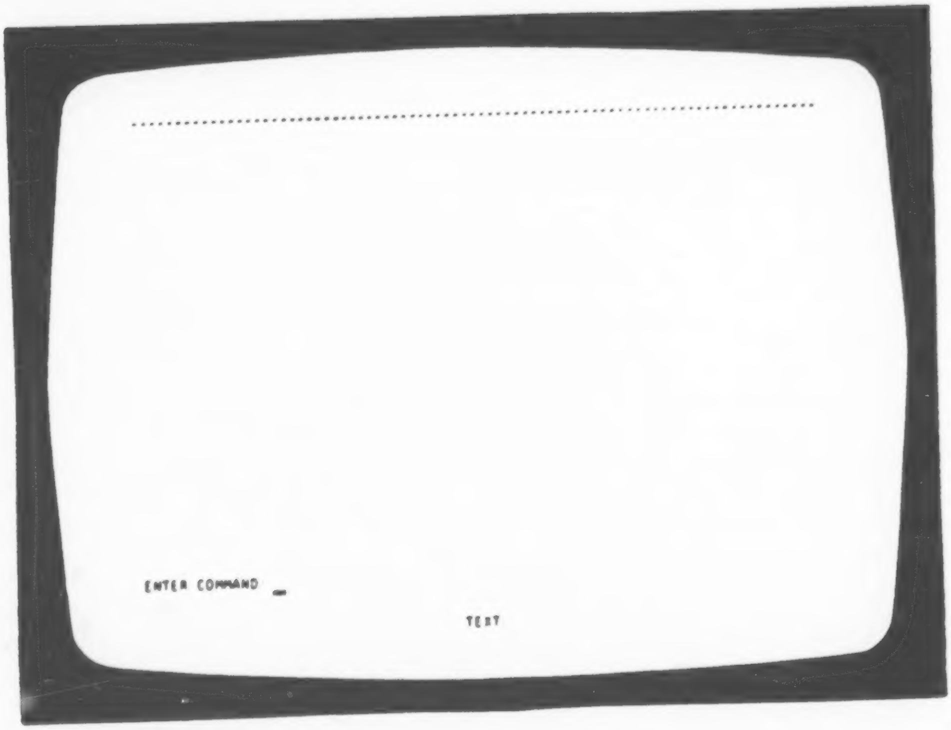
1. At any line indicating Enter Function, you may type: **99** and press the ENTER key. This will bring you to the Enter Command line.

OR

1. You may press the Immediate Command key to exit DISOSS.

2.1 Access DISOSS

5 min.

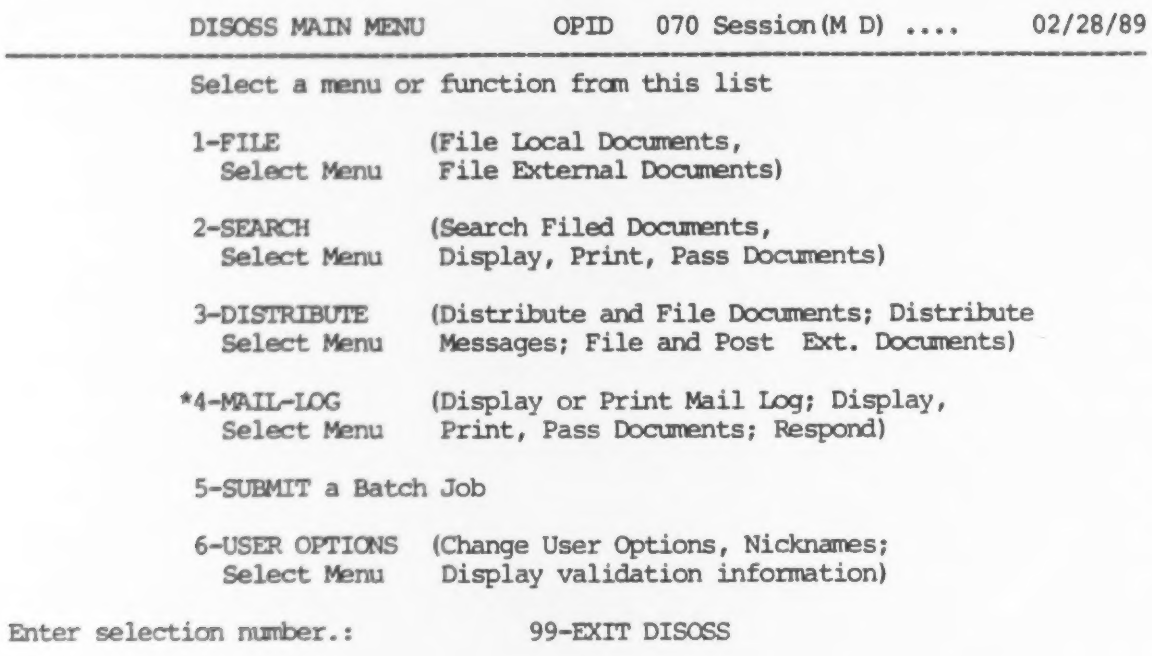


```
ENTER COMMAND _
                              TEXT
```

2.1 Access DISOSS function

5 min.

Actual screen after learners have hit Immediate Command key.



```
     DISOSS MAIN MENU        OPID  070 Session(M D) ....     02/28/89
---------------------------------------------------------------------
     Select a menu or function from this list

     1-FILE          (File Local Documents,
       Select Menu    File External Documents)

     2-SEARCH        (Search Filed Documents,
       Select Menu    Display, Print, Pass Documents)

     3-DISTRIBUTE    (Distribute and File Documents; Distribute
       Select Menu    Messages; File and Post  Ext. Documents)

    *4-MAIL-LOG      (Display or Print Mail Log; Display,
       Select Menu    Print, Pass Documents; Respond)

     5-SUBMIT a Batch Job

     6-USER OPTIONS  (Change User Options, Nicknames;
       Select Menu    Display validation information)

Enter selection number.:           99-EXIT DISOSS
```

2.1 Access DISOSS function

5 min.

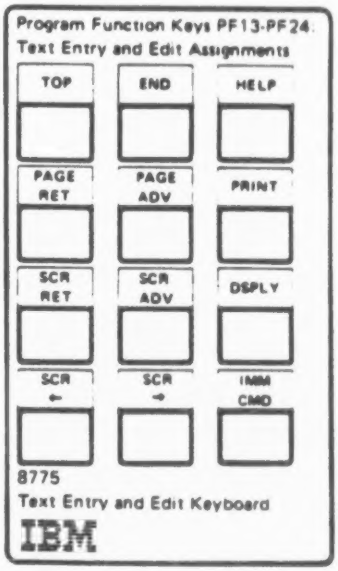
Actual screen after learners have typed on Enter Command Line: disoss OR DISOSS

GETTING HELP IN DISOSS

On-line HELP is available for any DISOSS function or separate field.

- Pressing the HELP KEY when the cursor is on the Enter Selection Number Line or when the cursor is at the lower right corner of the screen displays an explanation for that screen.

- Pressing the HELP key when the cursor is on a specific field of the screen displays an explanation for that field only. Simply move your cursor to the specific item for which you want more information and then press the HELP key.


Program Function Keys PF13-PF24
Text Entry and Edit Assignments
TOP
END
HELP
PAGE RET
PAGE ADV
PRINT
SCR RET
SCR ADV
DSPLY
SCR ←
SCR →
IMM CMD
8775
Text Entry and Edit Keyboard
IBM

2.2 Access Help Function
10 min.

** Main Menu Functions **

The Main Menu is the first DISOSS screen. From this screen, you can select the DISOSS function you require for processing. To select a function, enter in the field "Enter selection number:" the number shown to the left of the function you want. If you do not enter a number, function 4 (Mail Log) is assumed to be your choice; the "*" to the left of the 4 indicates that this is the default function used by DISOSS if no other is specified.

. . . MORE

CLEAR=Return to Main Menu

2.2 Access Help Function and Read Help Text

10 min.

Actual screens (following page displays screen after learners have page advanced)

```
________________________________________________________________

**  Main Menu Functions **
________________________________________________________________

Briefly, the functions listed on the Main Menu are:

   File           -   To file a document in the DISOSS Host
                      Library.
   Search         -   To find a filed document in order to
                      work with it, such as, to print,
                      display or delete it.
   Distribute     -   To send a document or message to other
                      users.
   Mail Log       -   To see your mail in order to act upon
                      it, such as, to print or display the
                       documents.
   Submit         -   To run jobs on the host.
   User Options   -   To specify certain user options and to
                      specify prefill values for menus and
                      prompt screens.

For more information on one of the DISOSS functions listed
on the Main Menu, move the cursor to the line containing the
function number and press the HELP key.



                                                     . . . MORE

                                   CLEAR=Return to Main Menu
```

** Mail-Log Function **

Use this function to see or print the messages and documents sent to you by other DISOSS users, or to display a list of the recipients on behalf of whom you work. You can also insert into the Mail-Log, notes to yourself as reminders of things to do.

The Mail-Log function (function 4), is the automatic selection from the Main Menu; the "*" to the left of the 4 indicates that this is the default function that DISOSS uses if you do not specify any other function. Choose a Mail-Log function from the Mail-Log Select Menu by entering the number shown to the left of the function in the field "Enter selection number." If no number is entered, function 1 (Display Mail-Log Entries) is assumed; the default is indicated by an "*".

2.3 Identify purpose and
procedure for access
to Help throughout DISOSS

10 min.

Actual screen to get help by field.

-

** Distribution Function **

Use this function to distribute a document, memo or message and at the same time to file the document in the host library.

To distribute a document, memo or message, select function 3 on the Main Menu. Then choose a distribution function from those shown on the Distribute Select Menu by entering the number shown to the left of the required function in the field "Enter selection number." If no number is entered, function 4 (list status) is assumed; the "*" to the left of the 4 indicates that this is the default function used by DISOSS if no other is specified.

For more information on a function listed on the Distribute Select Menu, move the cursor to the line containing the function and press the HELP key.

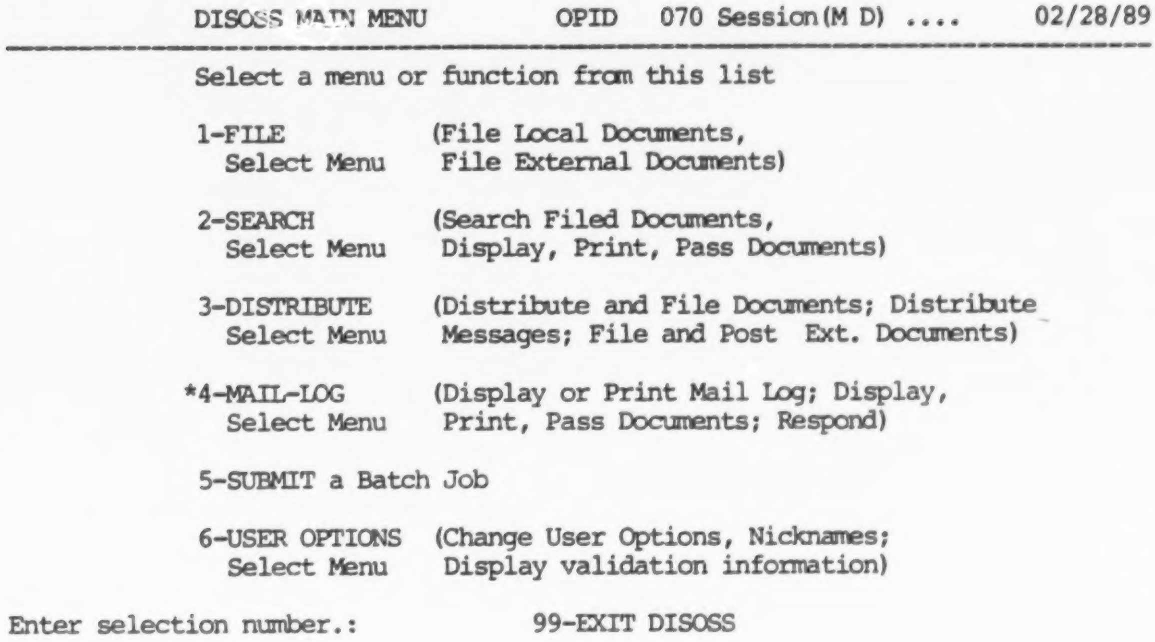
. . . MORE

CLEAR=Return to Main Menu

2.3 Identify purpose and procedure for access to Help throughout DISOSS

5 min.

Actual screen to get help by field.

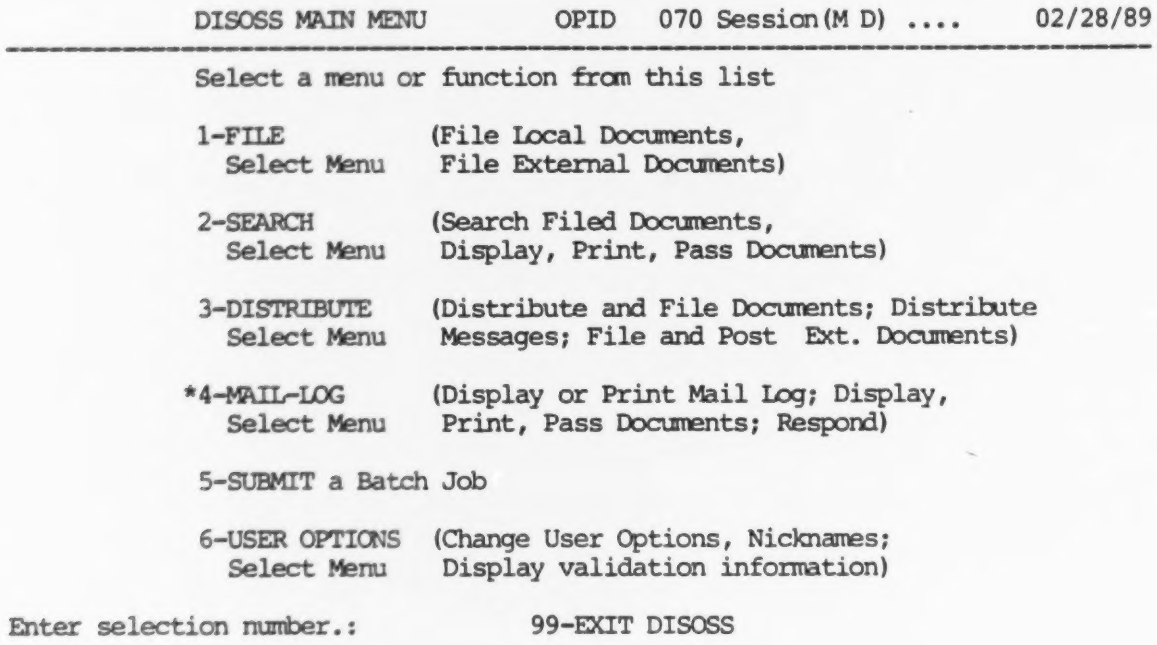


```
       DISOSS MAIN MENU          OPID  070 Session(M D) ....      02/28/89
------------------------------------------------------------------------
       Select a menu or function from this list

       1-FILE          (File Local Documents,
         Select Menu    File External Documents)

       2-SEARCH        (Search Filed Documents,
         Select Menu    Display, Print, Pass Documents)

       3-DISTRIBUTE    (Distribute and File Documents; Distribute
         Select Menu    Messages; File and Post  Ext. Documents)

      *4-MAIL-LOG      (Display or Print Mail Log; Display,
         Select Menu    Print, Pass Documents; Respond)

       5-SUBMIT a Batch Job

       6-USER OPTIONS  (Change User Options, Nicknames;
         Select Menu    Display validation information)

Enter selection number.:           99-EXIT DISOSS
```

2.4 Exit Help Function

2 min.

Actual screen after learners have hit the CLEAR key from Help Function.



```
               DISOSS MAIN MENU        OPID   070 Session(M D) ....     02/28/89
--------------------------------------------------------------------------------
               Select a menu or function from this list

               1-FILE          (File Local Documents,
                 Select Menu    File External Documents)

               2-SEARCH        (Search Filed Documents,
                 Select Menu    Display, Print, Pass Documents)

               3-DISTRIBUTE    (Distribute and File Documents; Distribute
                 Select Menu    Messages; File and Post  Ext. Documents)

              *4-MAIL-LOG      (Display or Print Mail Log; Display,
                 Select Menu    Print, Pass Documents; Respond)

               5-SUBMIT a Batch Job

               6-USER OPTIONS  (Change User Options, Nicknames;
                 Select Menu    Display validation information)

Enter selection number.:           99-EXIT DISOSS
```

3.1 Read Main Menu

5 min.

Actual screen learners should
have displayed on their terminals.

APPENDIX J

Evaluation Instruments

ENTRY BEHAVIOR TEST

April 17, 1989

DOSF REVIEW

The following activities have been developed to reinforce what you have learned and to determine whether or not we should clarify any DOSF functions before going on to DISOSS. Please do not consult your fellow class mates. Feel free to refer to the DOSF Users Manual supplied in the training class as well as any other handouts.

Should you have any questions during these activities, please make a note on the particular exercise or item, and we will discuss them after this segment of the course.

Please follow the instructions listed in the attached exercise.

ACTIVITY I - DOSF (Distributed Office Support Facility) Functions

1.1 Please get document **review** from Training Operator 150 and answer the questions "on-line."

DOSF Review

1.2 Please type your name here ______________________

2. The basic function of DOSF is to perform as a ______ ________.

3. Please list the steps involved in signing onto the IBM 8100 System using the 8775 terminal.

4. What is the command used to sign off of the IBM 8100 System?

5. What key on the 8775 keyboard do you press to get to the Enter Command Line?

6. What command do you issue to start a print queue?

7. How do you determine if you have a document in your Working Store?

8. Where do you issue Text Commands?

9. Where do you issue Immediate Commands?

10. What menu is available to assist you in creating text commands and how do you access this menu?

11. How do you access the function keys (i.e., copy key, move key, block delete key, etc.)?

12. Please insert the appropriate Text Command to end the pages as follows: after question number 5 input the appropriate Text Command to end the page and after question number 11 input the Text Command to end the page.

13. Adjust this document now and remove text commands (for page endings) that are not after questions 5 and 11. Adjust the document again.

14. Please store this document under your training Operator's ID as the first seven letters of your last name - all lower case letters (i.e., if your name is Harley Davidson, you would store this document as **davidso**).

15. Print out this document on the training printer's bond queue and submit to the trainer.

Thank you for responding to this questionnaire.

ACTIVITY I - DOSF (Distributed Office Support Facility) Functions

1.1 Please get document **review** from Training Operator 150 and answer the questions "on-line." **(Measures whether or not trainees can retrieve a document and function on the 8100 keyboard by typing their answers "on-line.")**

DOSF Review (Determines whether or not trainees have the required skills and mastery of basic DOSF terminology to complete lessons 1 - 3 of DISOSS)

1.2 Please type your name here ______________________

2. The basic function of DOSF is to perform as a **Text Editor OR Word Processor**

3. Please list the steps involved in signing onto the IBM 8100 System using the 8775 terminal.

3.1 **Hit Alt plus Attn Key**

3.2 **Hit Enter key**

3.3 **Enter Operator ID and Password**

3.4 **Hit Enter key**

4. What is the command used to sign off of the IBM 8100 System?

so

5. What key on the 8775 keyboard do you press to get to the Enter Command Line?

IMM CMD key

6. What command do you issue to start a print queue?

qstart

7. How do you determine if you have a document in your Working Store?

   type ed on the Enter Command Line OR look in lower left-hand corner of screen for document name

8. Where do you issue Text Commands?

   Within a document

9. Where do you issue Immediate Commands?

   On the Enter Command Line

10. What menu is available to assist you in creating text commands and how do you access this menu?

10.1 **Text Command Menu**

10.2 **By hitting Alt plus PF11 keys**

11. How do you access the function keys (i.e., copy key, move key, block delete key, etc.)?

    By hitting the Alt key plus whatever function key desired.

12. Please insert the appropriate Text Command to end the pages as follows: after question number 5 input the appropriate Text Command to end the page and after question number 11 input the Text Command to end the page.

13. Adjust this document now and remove text commands (for page endings) that are not after questions 5 and 11. Adjust the document again.

14. Please store this document under your training Operator's ID as the first seven letters of your last name - all lower case letters (i.e., if your name is Harley Davidson, you would store this document as **davidso**).

15. Print out this document on the training printer's bond queue and submit to the trainer.

Thank you for responding to this questionnaire.

Learners' Pre-Test/Post-test

PART I - DISOSS REVIEW

1. In the space provided, please write your DISOSS ID and explain how you determined this to be your DISOSS ID (the "rule" associated with the DISOSS Naming Convention)

____

____

____

2. Please list the four basic functions you can perform with DISOSS.

   1) ____________________________

   2) ____________________________

   3) ____________________________

   4) ____________________________

3. What would you consult if you wanted to determine to whom you could send documents and messages?

____

4. It is 8:00 p.m. and you are having problems retrieving an urgent document in DISOSS. Your boss needs this document right away. No one in your area is there to assist you. Who could you call for assistance?

____

____

5. If you wanted to get specific information about a single function or field within a screen, what would you do? (please identify the specific procedure you would use)

____

6. Although the following IBM 8100 DISOSS users have not yet been added to the DISOSS Network, please write their DISOSS IDs or DISOSS Names in the space provided.

   Clinton Eastwood ________________________

   Lee Ann Riddleston ________________________

   Hope Thai ________________________

7. Please sign onto the IBM 8100 System and access DISOSS.

Does your screen display: DISOSS MAIN MENU? ____ Yes ____ No

If NO, then proceed to question 20.

8. Access the Help function from the DISOSS MAIN MENU and answer the following questions:

Does your screen display "Main Menu Functions"? ____ Yes ____ No

If NO, then proceed to question 13.

9. According to the Help information, how do you select a function from the DISOSS Main Menu?

____

10. If you do not enter any number and you hit the enter key, what function will you access from the DISOSS Main Menu?

____

11. Please proceed to the next screen and read the remaining Help text. If you select the File function from DISOSS Main Menu, where will the document be filed?

____

12. Please exit the Help Function now. After exiting the Help Function, your screen should read: DISOSS MAIN MENU. Does this appear on your screen?

____ Yes ____ No

If NO, proceed to question 20.

Please read the DISOSS Main Menu to answer the following questions.

13. If you wanted to send a message to an associate who was on the DISOSS Network, which function would you select?

____

14. If you wanted to find a document you filed out to the DISOSS Host Library, which function would you select?

____

15. If you wanted to store a document in the DISOSS Host Library, what function would you select?

____

16. According to the information on the DISOSS MAIN MENU, how do you exit DISOSS?

____

17. If you wanted to select a menu or function from the DISOSS Main Menu, where would you enter your choice?

____

18. How would you get access to the File Function from this menu? (please identify the steps or procedure you would use to do this).

____

19. Please exit DISOSS now.

Does your screen display: Enter Command:? ______ Yes ______ No

20. True or False (please circle one); Only IBM 8100 DISOSS users linked to the DISOSS Network can communicate with offices worldwide.

21. DISOSS is a software product which resides on a mainframe computer or __________ in Phoenix, Arizona.

22. In your own words, describe the purpose of accessing the Help Function in DISOSS.

____

____

____

____

____

23. DISOSS allows me to communicate to other users connected to the __________ __________.

24. It is 9:30 a.m., your boss has asked you to send an urgent document to an associate in London. All systems are "down" and you need assistance right away. Who would you call?

____

PART II - DISOSS REVIEW

Please refer to the appropriate materials provided to answer the following questions.

25. Refer to the Document Classes and Retention Periods handout. Your boss has asked you to file an important 50-page document. She would like this to be accessible for an indefinite period of time. Referring to the Document Classes handout, under what class would you file this document? And why?

    ____
    ____
    ____

26. When filing a document to the DISOSS Host Library, if you do not input a particular document class, for what length of time will the document remain in the DISOSS Host Library?

    ____

27. If you had a two-page document that would no longer be needed after four months, under what class would you file it? And Why? (Please note, there is more than one "correct" answer here)

    ____
    ____
    ____

28. Refer to the Office Systems Client Directory. What is the Network Address of Leonie McCabe and what program or User Agent does she use?

    __________, __________

29. How many different programs or User Agents does Nancy Bailey use? What are they?

    ____

30. If you wanted to communicate with Ed Fassel, what Network ID and Network Address would you use?

    __________, __________

31. Refer to the DISOSS Network Structure handout. True or False (Please circle one): With the current DISOSS Network structure, we can communicate with Moscow.

32. True or False (please circle one): All-In-One users linked to the DISOSS Network cannot communicate with PS/CICS users linked to the DISOSS Network.

33. True or False (please circle one): With the current DISOSS Network structure, we can communicate with American Express offices in Tokyo.

DISOSS REVIEW- PreTest/PostTest
Trainer's Version Reordered and Numbered by Objectives

1 DISOSS is a software product which resides on a mainframe computer or **Host** in Phoenix, Arizona.

2 DISOSS allows me to communicate to other users linked to the **DISOSS Network.**

Please list the four basic functions you can perform with DISOSS.

3 **File Documents OR Store Documents**

4 **Search Filed Documents OR Look for Filed Documents**

5 **Distribute OR Send Documents and Messages**

6 **Access Mail-log OR Receive Documents and Messages**

7 True or **False** (please circle one); Only IBM 8100 DISOSS users linked to the DISOSS Network can communicate with offices worldwide.

8 Refer to the DISOSS Network Structure handout. True or **False** (Please circle one): With the current DISOSS Network structure, we can communicate with Moscow.

9 True or **False** (please circle one): All-In-One users linked to the DISOSS Network cannot communicate with PS/CICS users linked to the DISOSS Network.

10 **True** or False (please circle one): With the current DISOSS Network structure, we can communicate with American Express offices in Tokyo.

What would you consult if you wanted to determine to whom you could send documents and messages?

11 **Office Systems Services Client Directory OR OSS Client Directory**

Refer to the Office Systems Client Directory. What is the Network Address of Leonie McCabe and what program or User Agent does she use?

12 **BROC OR broc** 13 **PS/PC**

How many different programs or User Agents does Nancy Bailey use? What are they?

14 **Two** 15 **All-In-One and IBM 8100-DISOSS OR 8100**

If you wanted to communicate with Ed Fassel, what Network ID and Network Address would you use?

16 **EFASSEL OR efassel** 17 **PHOENIX or phoenix**

It is 8:00 p.m. and you are having problems retrieving an urgent document in DISOSS. Your boss needs this document right away. No one in your area is there to assist you. Who could you call for assistance?

18 **Phoenix Help Desk**

19 It is 9:30 a.m., your boss has asked you to send an urgent document to an associate in London. All systems are "down" and you need assistance right away. Who would you call?

The NY Help Desk AND/OR the NY Help Desk -- If they were unavailable, I would call the Phoenix Help Desk

In the space provided, please write your DISOSS ID and explain how you determined this to be your DISOSS ID (the "rule" associated with the DISOSS Naming Convention)

20 **mrowell OR MROWELL (Learners write their own DISOSS ID)**

21 **The first letter of my first name and the first seven letters of my last name is the "rule" I applied.**

Although the following IBM 8100 DISOSS users have not yet been added to the DISOSS Network, please write their DISOSS IDs or DISOSS Names in the space provided.

22	Clinton Eastwood	**CEASTWOO OR ceastwoo**
23	Lee Ann Riddleston	**LRIDDLES OR lriddles**
24	Hope Thai	**HTHAI OR hthai**

Refer to the Document Classes and Retention Periods handout. Your boss has asked you to file an important 50-page document. She would like this to be accessible for an indefinite period of time. Referring to the Document Classes handout, under what class would you file this document? And why?

25 **RETAIN OR retain**

26 **Because the retention period or length of time it will remain in the DISOSS Host Library is indefinite or "forever."**

27 When filing a document to the DISOSS Host Library, if you do not input a particular document class, for what length of time will the document remain in the DISOSS Host Library?

6 Months

If you had a two-page document that would no longer be needed after four months, under what class would you file it? (There a number of "correct" answers here) Why?

28 **NOTICE OR MEMO OR DOC**

29 **Because the retention period or length of time it will remain in the DISOSS Host Library is six months (closest to the amount of time needed) and the class fits the requirements in terms of the pages and retention periods supplied in the handout.**

Please sign onto the IBM 8100 System and access DISOSS.

30 Does your screen display: DISOSS MAIN MENU? ____ Yes ____ No

If NO, then proceed to question 20.

Access the Help function from the DISOSS MAIN MENU and answer the following questions:

Please exit DISOSS now.

31 Does your screen display: Enter Command:? ____ Yes ____ No

32 Does your screen display "Main Menu Functions"? ____ Yes ____ No

If NO, then proceed to question 13.

According to the Help information, how do you select a function from the DISOSS Main Menu?

33 **"To select a function, enter in the field 'Enter Selection Number' the number shown to the left of the function that you want."**

If you do not enter any number and you hit the enter key, what function will you access from the DISOSS Main Menu?

34 **Function 4 AND/OR Mail-log**

Please proceed to the next screen and read the remaining Help text. If you select the File function from DISOSS Main Menu, where will the document be filed?

35 **DISOSS Host Library**

Please exit the Help Function now. After exiting the Help Function, your screen should read: DISOSS MAIN MENU. Does this appear on your screen?

If you wanted to get specific information about a single function or field within a screen, what would you do? (Identify the specific procedure you would use)

36 **Move my cursor to the specific function or line containing the item for which I want more information and hit the Help Key.**

37 In your own words, describe the purpose of accessing the Help Function in DISOSS.

I access the Help function in DISOSS whenever I need help or more information about a menu, screen or particular item.

38

____ Yes ____ No

If NO, proceed to question 20.

Please read the DISOSS Main Menu to answer the following questions.

If you wanted to send a message to an associate who was on the DISOSS Network, which function would you select?

39 **Option 3 AND/OR Distribute**

If you wanted to find a document you filed out to the DISOSS Host Library, which function would you select?

40 **Option 2 AND/OR Search**

If you wanted to store a document in the DISOSS Host Library, what function would you select?

41 Option 1 AND/OR File

According to the information on the DISOSS MAIN MENU, how do you exit DISOSS?

42 Type 99

If you wanted to select a menu or function from the DISOSS Main Menu, where would you enter your choice?

43 On the Enter Selection Number Line OR Field

How would you get access to the File Function from this menu? (please identify the steps or procedure you would use to do this).

44 On the Enter Selection Number Line I would type 1 and enter

TRAINER'S EVALUATION GUIDE FOR PRETEST/POSTTEST

Student Name or Number: ______________________

PreTest: ____ PostTest: ____

Test Items Renumbered for Data Analysis tables grouped by objective

	Correct	Incorrect	Other (Explain)
1.1 20			
1.2 21			
2.1 3			
2.2 4			
2.3 5			
2.4 6			
3.1 11			
4.1 18			
5.1 36			
6.1 22			
6.2 23			
6.3 24			
7.1 30			
8.1 32			
9.1 33			
10.1 34			
11.1 35			
12.1 38			
13.1 39			
14.1 40			
15.1 41			
Sub-Total			

	Correct	Incorrect	Other (Explain)
16.1 42			
17.1 43			
18.1 44			
19.1 31			
20.1 7			
21.1 1			
22.1 37			
23.1 2			
24.1 19			
25.1 25			
25.2 26			
26.1 27			
27.1 28			
27.2 29			
28.1 12			
28.2 13			
29.1 14			
29.2 15			
30.1 16			
30.2 17			
31.1 8			
32.1 9			
33.1 10			
Sub-Total			
TOTAL			

EVALUATION FORM - ATTITUDE SURVEY

Name: ______________________ -Course: ______________

Date: __________

Your feedback on the instruction will help us understand what you think about the lessons. Please answer honestly. Your opinions and comments will be very helpful in assisting us in improving instruction.

Rate the following items:

1 = Strongly Disagree
4 = Neutral
7 = Strongly Agree

1.	I believe DISOSS will help me perform my job.	1	2	3	4	5	6	7
2.	At the beginning of the lesson, it was stated clearly what I would be learning.	1	2	2	4	5	6	7
3.	The visuals and handouts were not of help in learning about DISOSS.	1	2	3	4	5	6	7
4.	The instructor clearly presented the information.	1	2	3	4	5	6	7
5.	I would have preferred more practice within the lessons.	1	2	3	4	5	6	7
6.	The practice questions and exercises helped me to learn about DISOSS.	1	2	3	4	5	6	7
7.	The questions on the PostTest were clear.	1	2	3	4	5	6	7
8.	I felt I knew most of the answers on the PostTest.	1	2	3	4	5	6	7
9.	I believe DISOSS is very difficult to use.	1	2	3	4	5	6	7
10.	I do not feel ready to start learning about how to use DISOSS.	1	2	3	4	5	6	7

What do you think would improve the lesson most?

____

____

APPENDIX K

IBM 8100 DOSF "Mini Lesson"

Entry Behaviors for One-on-One and Small Group Trials

Entry Behaviors - Lesson 1 - 3

Critical behaviors identified for DISOSS instruction (Lessons 1 - 3) were incorporated into a "mini lesson" for the purposes of formative evaluation with trainees having no DOSF (Distributed Office Support Facility) instruction.

In reality, learners would first complete a three-day training session on DOSF. After completing this mini lesson, the learners were able to function on DISOSS.

Entry Behaviors:

1. **Basic DOSF Terminology (Permanent Store, Adjust Mode, Insert Mode)**
2. **Using the IBM 8100 8775 Keyboard**
3. **Signing onto the system**

Information Presentation:

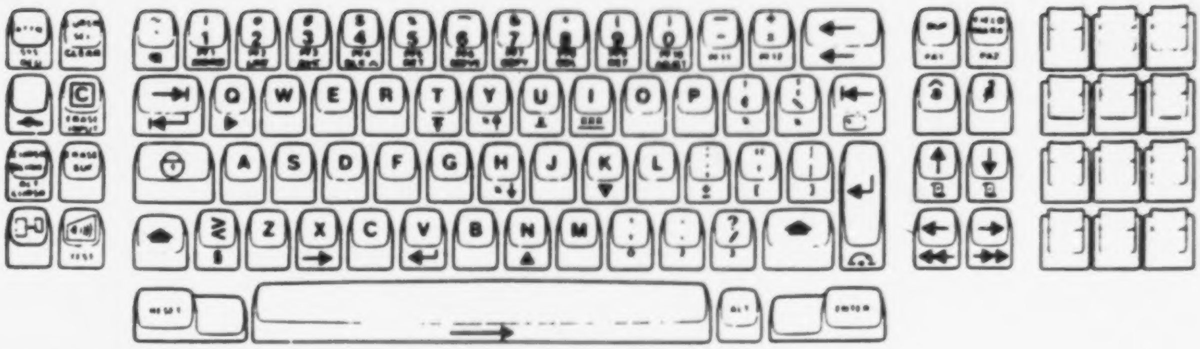
DOSF is the text editor or word processor for the IBM 8100 System. With it you can type documents, store them in your permanent store and retrieve them for further editing.

For a brief overview of what DOSF can do, we will sign onto the system, retrieve a document from the Trainer Operator's Permanent Store, edit the document and store it under our Operator Numbers. This will give us practice using the IBM 8100 8775 keyboard and applying some basic DOSF terminology; Permanent Store, Adjust Mode, Insert Mode.

To sign onto the 8100 system you need an operator number and password (each trainee is given a Trainee Operator Number and Password for the purposes of training). This gives you access to the system and allows you start typing documents.

Please turn to page 1.1 and follow the instructions. This mini lesson will give you the basics to work in DOSF.

THE KEYBOARD



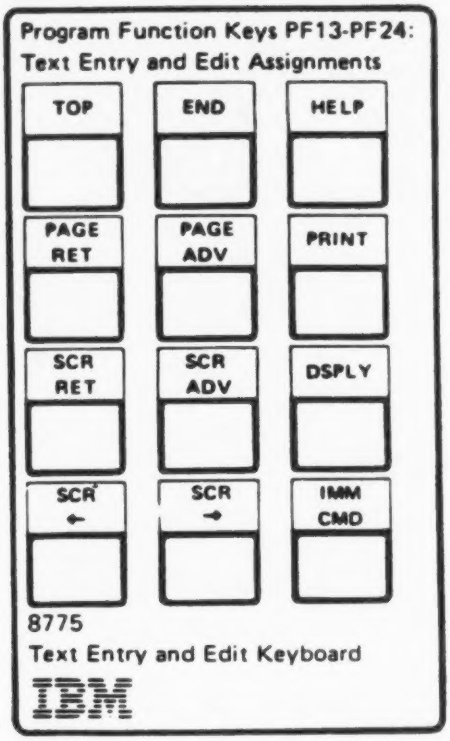
8775 Keyboard

Notice that the keyboard resembles a typewriter keyboard. In fact, there is a standard typewriter keypad in the center of the keyboard. There are also keys that don't exist on a typewriter. When you combine your regular typing skills with the use of these extra keys, you will be able to perform operations that are beyond the capability of the most advanced typewriter.

You create and edit all documents at the display station. When your document is letter perfect, you send it to the printer.

THE TEMPLATE

Use this side with DOSF

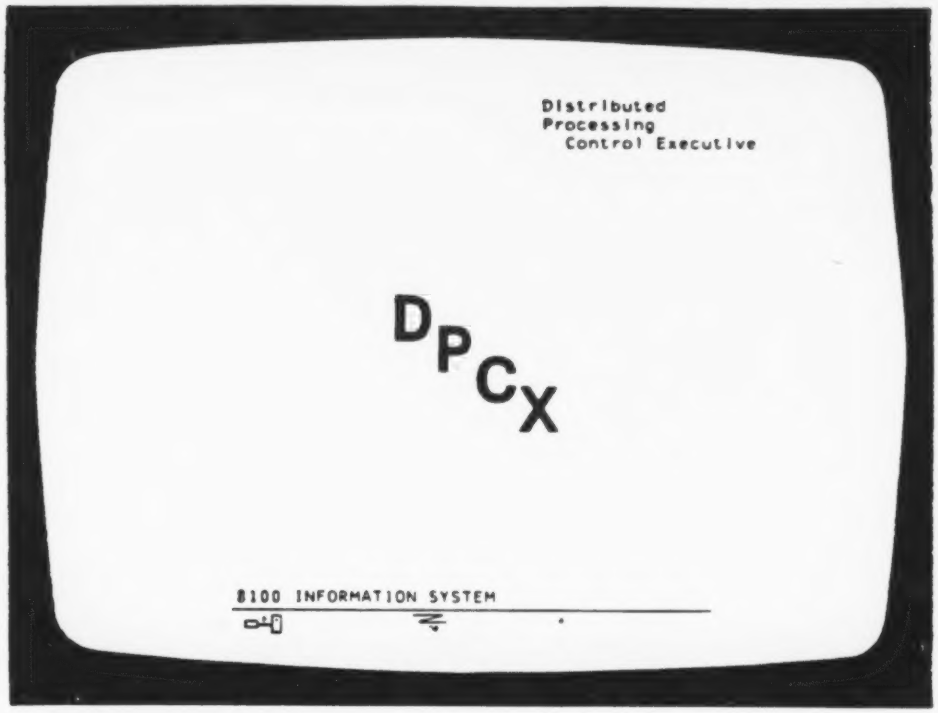

Program Function Keys PF13-PF24:
Text Entry and Edit Assignments
TOP
END
HELP
PAGE RET
PAGE ADV
PRINT
SCR RET
SCR ADV
DSPLY
SCR ←
SCR →
IMM CMD
8775
Text Entry and Edit Keyboard
IBM

LEARNING TO USE THE 8775 KEYBOARD AND DISPLAY

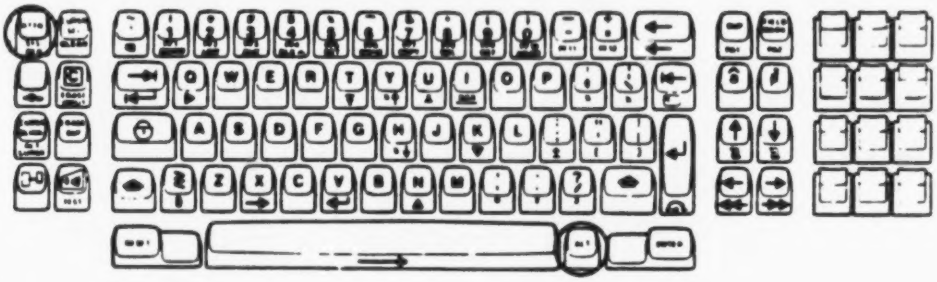
The fastest way to learn the 8775 keyboard and display is to use them, so let's get started.

SIGNING ON TO THE SYSTEM

1. Turn the brightness up to see the DPCX screen

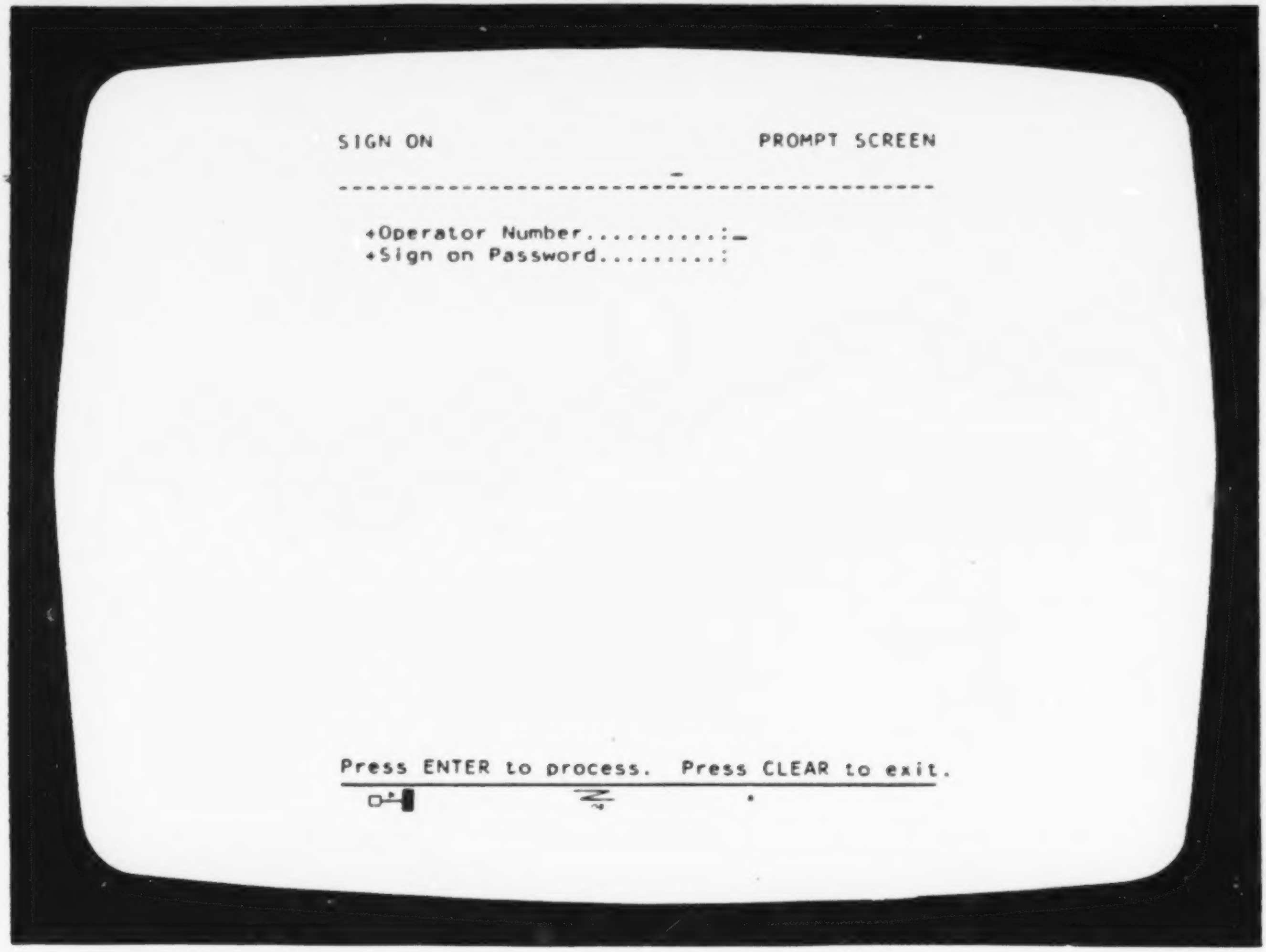

Distributed
Processing
Control Executive
DPCX
8100 INFORMATION SYSTEM

2. Hold down the **ALT** and **SYS REQ**



3. Press **Enter**

The screen will flash and the SIGN ON screen will appear.



```
SIGN ON                                      PROMPT SCREEN
----------------------------------------------------------

  +Operator Number..........:_
  +Sign on Password.........:












Press ENTER to process.  Press CLEAR to exit.
----------------------------------------------------------
```

4. Type your **OPERATOR NUMBER**

5. Press **RETURN**

6. Press **ENTER**

The screen will flash, and you will see the prompt at the bottom right which tells you the sign on procedure is running, after which you will see a "TEXT EDIT AND ENTRY" screen.

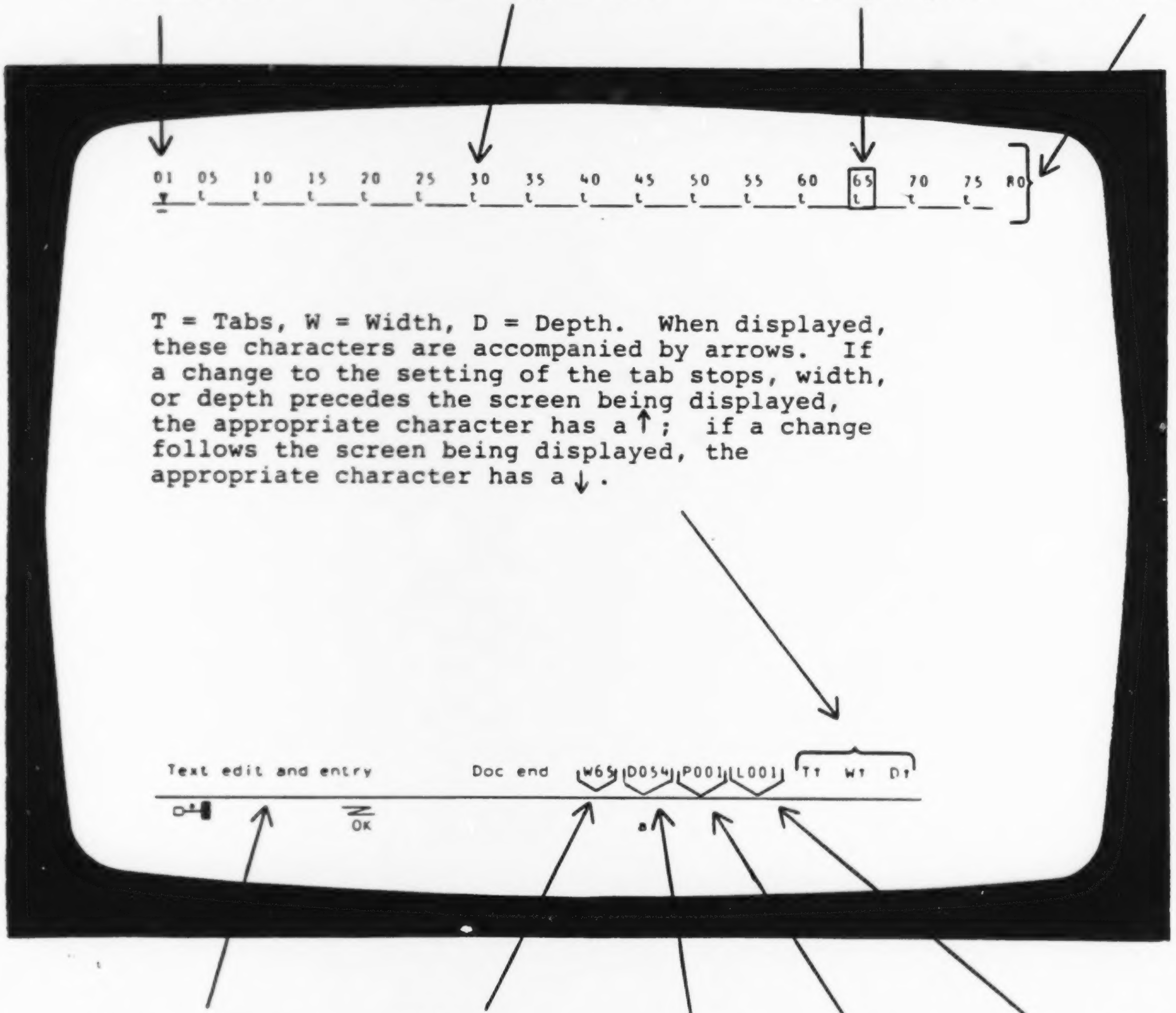
The TEXT EDIT AND ENTRY screen should look like the one below and will provide you with a lot of information. Familiarize yourself with the screen below and become acquainted with its contents.

The position of the left margin is highlighted

t on the scale shows where a tab stop is set

The position of the right margin is highlighted

The scal


01 05 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80
t t t t t t t t t t t t t t t
Text edit and entry
Doc end
W65
D054
P001
L001
T↑ W↑ D↑
OK

T = Tabs, W = Width, D = Depth. When displayed, these characters are accompanied by arrows. If a change to the setting of the tab stops, width, or depth precedes the screen being displayed, the appropriate character has a ↑; if a change follows the screen being displayed, the appropriate character has a ↓.

Status message which indicates that text can be typed and entered

Width; characters per line

Depth; lines per page

Page; the number of the page being displayed

Line; the number of the first line being displayed

REVISING A DOCUMENT

In order to revise a document, you must recall or **get** the document from storage in the computer.

1. Press: **IMM CMD**
2. Type: **get**
3. Press **ENTER**
4. Type: **computers** (the document name)
5. Press **RETURN** twice
6. Type: **150**
   (the Training Administrator's Operator Number)
7. Press **ENTER**

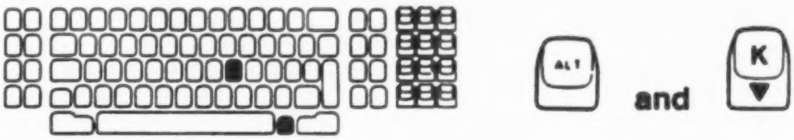
The text of the document "computers" now appears on your display screen.

USING ADJUST MODE

You normally use the Adjust Mode for entering text such as sentences and paragraphs. With the system in this mode, a new line is automatically started when your typing reaches the right margin. In other words, you do not need to press the RETURN key at the end of each line. If a word does not fit on the line, it is automatically moved to the beginning of the next line, so you don't need to look at the screen to check line ending or decide when to start a new line. This is called "wordspill."

Look for the Adjust symbol ▼ which appears as the first character on the scale line. the text edit and entry screen will always be displayed in Adjust mode as this is the system default.

1. Hold down the ALT key and press ▼ (Set Adjust key)



2. Press New Line

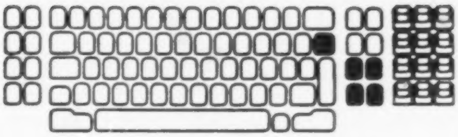
MAKING REVISIONS

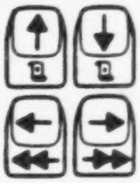
To correct an error on a previously typed line, you need to learn how to position the cursor in text. Then you can delete, replace, or add text as necessary.

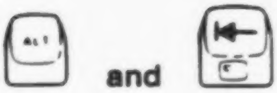
MOVING THE CURSOR

The first step in revising a document is to position the cursor where the change is to be made.

To position the cursor without affecting text in a document, use the cursor keys to the right of the typing keyboard.







You have five cursor keys, all marked with arrows, to choose from when you want to move the cursor. Four of them are repeat action keys and, if you hold them down, they will make the cursor travel quickly across or up and down the screen until you get to the location you need. Let's try it.

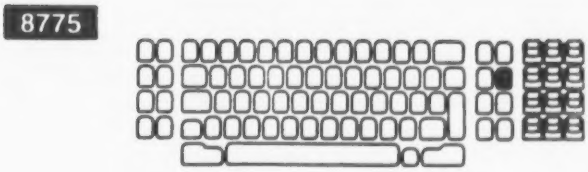
1. Hold down the → key, and watch the cursor move to the right and wrap to the next line.
2. Hold down the ↓ key, and watch the cursor move down the screen and wrap.
3. Hold down the ← key, and watch the cursor move to the left and wrap to the previous line.
4. Hold down the ↑ key, and watch the cursor move up the screen and wrap.
5. Hold down the **ALT** key and the → key, and notice the cursor travel faster to the right.
6. Hold down the **ALT** key and the ← key, and notice the cursor travel faster to the left.
7. To return to the first typing line, press **ALT** and the Cursor Home key ⇤ , which is located above the RETURN key.

Do not use the space bar to move the cursor.

To practice using the cursor keys, try moving the cursor around the screen. Think about the fastest ways to get from one position to another. With practice (and you'll be getting plenty), you will quickly become efficient at moving the cursor.

Often there is more than one way to move the cursor from one spot to another. Sometimes one way is as good as another. It is useful, however, to remember when to use the Cursor Home key because it is the quickest way to get the cursor to the top left screen position.

DELETING CHARACTERS



The Character Delete key removes a single character or symbol directly above the cursor and adjusts the characters around it.

For example, the first paragraph in the document **computers** has extra characters in two words:

We want computters to helpp you get your work done.

To delete unwanted characters, first position the cursor under the character to be deleted. Then use the **Character Delete** key to delete the character.

Delete the extra "t" in computters.

1. Position the cursor under one of the "t"s
2. Press the Character Delete key

Now delete the extra "p" in helpp.

1. Position the cursor under the character to be deleted.
2. Press the Character Delete key.

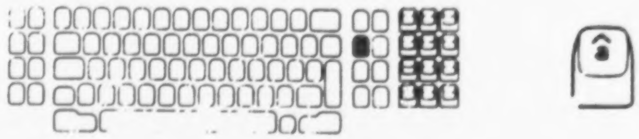
INSERTING CHARACTERS

Your display screen can be in either Insert Mode or Replace Mode. Locate the Character Insert key next to the Character Delete key. Look at the "a" in the OPERATOR INFORMATION AREA located on the bottom of your screen. The insert symbol ^ beside the "a" disappears and reappears as you press the Character Insert key. Try that now.

When the insert symbol ^ appears in the Operator Information Area, your display is in Insert Mode.

Put your display screen in Insert Mode now.

1. Press ^



Practice inserting characters to correct the word "Ofice" in the first paragraph.

1. Be sure your display screen is in Insert Mode
2. Position the cursor under "f"
3. Insert another "f" here
4. Repeat these steps to correct the word "Ofice" in the next paragraph

REPLACING CHARACTERS

Put your display screen in Replace Mode by pressing the Character Insert key. Look at the OPERATOR INFORMATION AREA. Note that the insert symbol ^ no longer appears beside the "a."

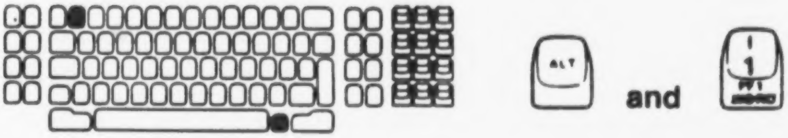
We can correct the word "pregrammer" in the top paragraph by replacing the first "e" with an "o."

1. Be sure your display screen is in Replace Mode.
2. Position the cursor under the first "e"
3. Press the "o" key

NOTE: Think about why you must never try to use the space bar to move the cursor. If your display screen is in Insert Mode, pressing the space bar inserts spaces. If your display screen is in Replace Mode, pressing the space bar replaces your text with spaces.

PUT YOUR DISPLAY SCREEN BACK IN INSERT MODE.

DELETING A WORD



Suppose we want to replace the word "programmer" with the word "expert."

Pressing the **Word Delete Key** with the cursor under the first letter of a word, deletes the entire word, including the space at the end of the word.

You will now replace the word "programmer" with the word "expert."

1. Position the cursor at the beginning of the word "programmer"
2. Press **ALT and WORD**

The word disappears.

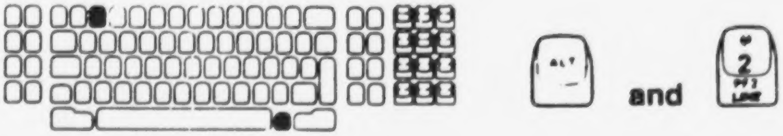
3. With your display screen in Insert Mode, type the word: **expert** followed by a space.

DELETING PART OF A WORD

1. Place your cursor under the hyphen in TRS-Telecommunications on the next line.
2. Press **ALT and WORD**
3. Press the **SPACE BAR** to insert the necessary space.

DELETING THROUGH THE END OF A LINE

Similar to the Word Delete key, the Line Delete key deletes everything from the cursor position through the end of the line including the space or return at the end of that line.



If you delete a complete line, the remaining lines on your display will move up.

Delete the following sentence by using the Line Delete key:

> And you don't have to be an expert to make that happen.

1. Position the cursor under the first character of the line to be deleted.
2. Press **ALT and ~~LINE~~** to delete the text to the end of the line.
3. Repeat until you have deleted all of the sentence.

The ~~WORD~~ and ~~LINE~~ keys have no effect unless you press the ALT key at the same time. This is to protect against deleting something accidentally.

ADDING LINES

You can insert new lines of typing until the buffer is full. The system will signal you with a short tone if you try to add too much. At the sound of this tone, make sure you press ENTER.

> Be sure you are still in INSERT MODE. ^ should appear in the OPERATOR INFORMATION AREA

Next, you will add a sentence to the second paragraph.

1. Position the cursor under the character that will follow the added text - that is, the RETURN at the end of the second paragraph in this example.
2. Press the space bar twice and type the following:

> All three components have been designed to work together so that information may flow among different users doing different jobs on different machines with different programs.

Did you see the text move around as you inserted the new text?

Now use what you have learned to make any corrections that may be necessary. If you have made any typographical errors anywhere in the document, correct them before continuing. Later, you will learn how to use the SPELL function.

By now you should be getting a good idea of how easy it will be to proof your work and make minor corrections.

REMEMBER, IN ORDER TO MAKE REVISIONS:

A. Position the cursor.

B. To Delete: Press the appropriate Delete key using the ALT key if applicable.

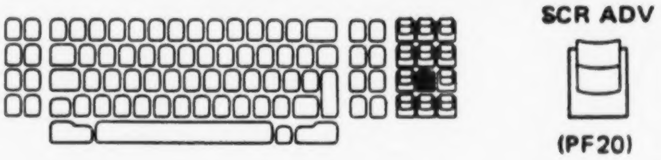
To Add: Put the system in Insert Mode, position the cursor and then type the new text.

To Replace: Put the system in Replace Mode. Then type over old text with new.

USING THE SCREEN ADVANCE AND SCREEN RETURN KEYS

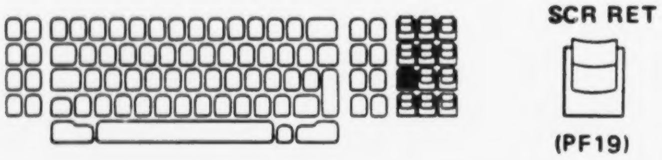
The document "computers" takes two screens.

2. Press the SCR ADV key to advance to the next screen



With the Screen Advance key, the text is moved up on the screen to display the next 20 lines of text. The blank lines are provided at the bottom of the screen so additions to the text can be made. The cursor is located under the first character.

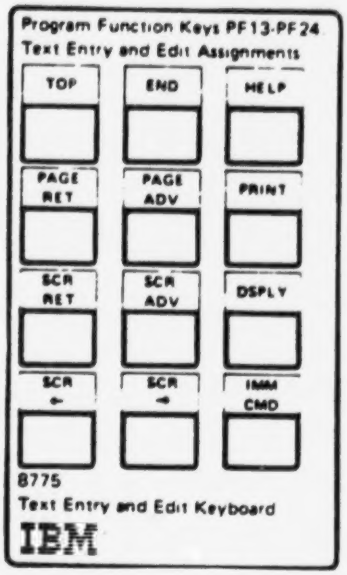
1. Press the SCR RET key



Notice with the Screen Return key, the text has been moved down on the screen to display the 20 lines of text that came before the text previously shown. The cursor is located under the first character at the top of the text.

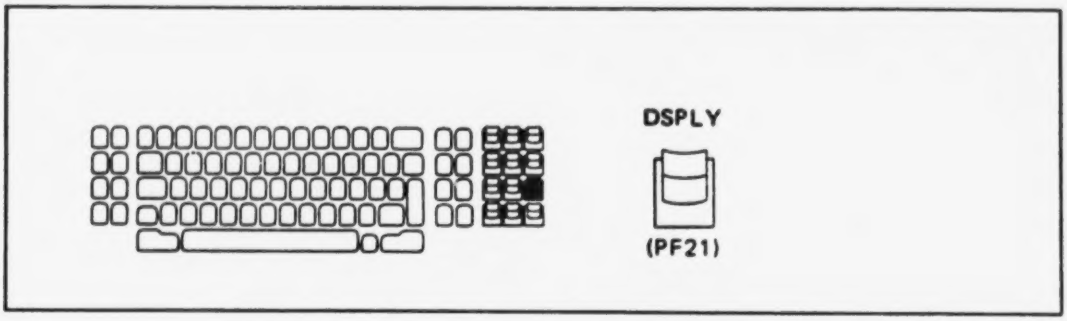
Press Screen Advance and Screen Return a few times to become familiar with them

USING THE TOP AND END KEYS


Program Function Keys PF13-PF24
Text Entry and Edit Assignments
TOP
END
HELP
PAGE RET
PAGE ADV
PRINT
SCR RET
SCR ADV
DSPLY
SCR ←
SCR →
IMM CMD
8775
Text Entry and Edit Keyboard
IBM

1. Press **END** and look at the screen.
2. Press **TOP** - notice the system lines

USING THE DISPLAY KEY



1. Press the **DSPLY** (Display) key once. Notice that your spaces, returns and adjust mode symbol disappeared?
2. Press the **DSPLY** key once more, and notice that your spaces and return symbols reappear?
3. Press the **DSPLY** key one more time, and notice that your adjust symbol reappears?

It is best to leave your display with all the symbols showing.

READING DISPLAY SYMBOLS

With the Display key on, you should see the following symbols on your screen:

Adjust	▼	Indicates that the following text is set in Adjust Mode (automatic wrap)
Required Return	◀	Indicates a required return (used when in Adjust Mode to save line ending)
Tab	→	Causes text to be positioned at the next tab stop
Space	..	Two dots are used as a separator between words and at the end of lines created by wordspill
Return	↵	Indicates you pressed the Return key, as when you insert a blank line or end a paragraph (within Adjust Mode, two regular returns are adequate to end a paragraph and start a new one. Required Returns are necessary when single spacing)

When you type, the system records every keystroke including tabs, spaces between words, and returns between paragraphs.

Keep the Display key on when you are using DOSF. Display will help you become familiar with the screen symbols and how DOSF records key strokes.

The Display key is also helpful when something isn't working. Always check your screen symbols and make sure you did not use an incorrect keystroke.

Occasionally, you may wish to turn off the Display mode in order to see only the text as it was entered. Let's do this now.

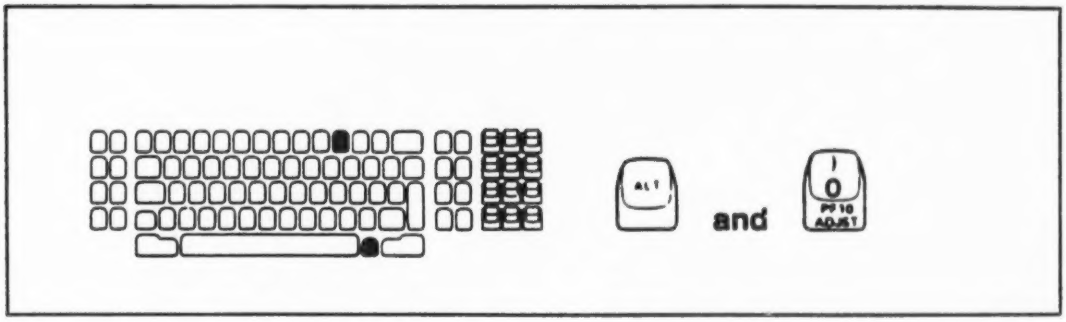
1. Press **DSPLY** key once to remove the symbols from the screen.
2. Press the **DSPLY** key twice to redisplay all symbols.

ADJUSTING THE DOCUMENT

Always adjust a document when you have finished typing or revising. Adjust allows the system to check the document for formatting errors, paginates the document and removes blank lines or pages.

1. Press **ALT** and **ADJST**

The screen flashes momentarily. The cursor returns to the top of the document. Do this again and notice the system clock appear at the bottom of your screen. When you see the system "clock," you can not perform functions within DOSF. You must wait until the clock disappears before continuing.



RETURNING THE DOCUMENT TO STORAGE

Now that you have adjusted the document, you may store it.

1. Press **IMM CMD**
2. Type the Store command: **store**

NOTE: Documents should be stored in lower case to alleviate any confusion as to how it was stored.

3. Press **ENTER**
4. Document name **computers** appears on screen
5. Change Operator number 150 to your operator number
6. Press **ENTER**

You have now stored the document in your Permanent Store.

CLEARING THE DOCUMENT FROM THE WORKING STORE

You successfully stored the document **computers** in your Permanent Store. However, it is also in your Working Store (you actually have two copies now). Your screen should be displayed with the Enter Command line. You should also see the word "computers" in the lower left-hand corner of the screen. You must CLEAR the document from your working store before you can work on anything else. Let's do this now.

1. At the **ENTER COMMAND** line, type: **clear**
2. Press **ENTER** to clear the document from your working store.
3. Type: **edit**
4. Press **ENTER** to display a Text Edit and Entry screen.

APPENDIX L

Formative Evaluation Test Results

PRETEST One-On-One

OBJECTIVE	1.1		1.2				1.3				1.4							1.5		1.6					1.7					2.1		2.2				2.3		2.4	3.1				3.2		RAW	%	#	%
TEST ITEM	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	SCORE	CORRECT	OBJ	OBJ
STUDENT																																																
1	0	0	0	0	0	0	0	1	1	1	0	1	1	1	1	1	1	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	32%	1	8%
2	0	0	0	0	0	0	0	0	1	1	0	1	1	1	1	1	1	0	0	0	0	0	0	0	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	27%	0	0%
3	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	34%	2	15%
# OF STUDENTS CORRECT	0	0	0	0	0	0	0	2	3	3	1	3	3	3	3	3	3	0	0	0	0	0	0	0	3	2	3	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	41			
% CORRECT	0%	0%	0%	0%	0%	0%	0%	67%	100%	100%	33%	100%	100%	100%	100%	100%	100%	0%	0%	0%	0%	0%	0%	0%	100%	67%	100%	100%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	31%			

POSTTEST One-On-One

OBJECTIVE	1.1		1.2				1.3				1.4							1.5		1.6					1.7					2.1		2.2				2.3		2.4	3.1				3.2		RAW	%	#	%
TEST ITEM	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	SCORE	CORRECT	OBJ	OBJ
STUDENT																																																
1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	42	95%	11	85%
2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0	1	1	0	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	40	91%	10	77%
3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	44	100%	13	100%
# OF STUDENTS CORRECT	3	3	3	3	3	3	3	3	3	3	2	3	3	3	3	3	3	3	3	3	2	3	3	3	3	2	2	3	2	3	3	3	3	3	3	3	2	3	3	3	3	3	3	3	126			
% CORRECT	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	67%	100%	100%	100%	100%	100%	100%	100%	100%	100%	67%	100%	100%	100%	100%	67%	67%	100%	67%	100%	100%	100%	100%	100%	100%	100%	67%	100%	100%	100%	100%	100%	100%	100%	95%			

```
PRETEST  Small Group
                                                                                                                            :       :     :   :
                                                                                                                            :       :     :   :
                                                                                         2.1     2.2        2.3 2.4    3.1      3.2     :       :     :   :
OBJECTIVE :  1.1 :    1.2    :      1.3     :              1.4            1.5      1.6               1.7       ------ ---------- ----- --- ---------- ------  RAW  :   %   :  #  : % :
----------:------:-----------:--------------:--------------------------:------:-------------- ------------------ 
TEST ITEM :  1  2 : 3  4  5  6 :  7   8  9   10 :11   12   13   14   15   16   17 :18 19 :20 21 22 23 24 :  25   26   27   28   29 :30 31 :32 33 34 35 :36 37 :38 :39 40 41 42 :43 44 :SCORE :CORRECT: OBJ :OBJ:
----------:------:-----------:--------------:--------------------------:------:--------------:------------------:------:------------:------:---:------------:------:------:-------:-----:---:
 STUDENT  :
       1 :  0  0 : 0  0  0  0 :  0   1  1    1 : 0    1    1    1    1    1    1 : 0  0 : 0  0  0  0  0 :   1    1    1    1    1 : 0  0 : 0  0  0  0 : 0  0 : 0 : 0  0  0  0 : 0  0 :  14 :   32%:   1 : 8%:
       2 :  0  0 : 0  0  1  1 :  1   1  1    1 : 1    1    1    1    1    1    1 : 0  0 : 1  0  0  0  1 :   1    1    1    1    1 : 0  0 : 0  0  0  0 : 0  0 : 0 : 0  0  0  0 : 0  0 :  20 :   45%:   3 :23%:
       3 :  0  0 : 0  0  0  0 :  0   1  1    1 : 1    1    1    1    1    1    1 : 0  0 : 0  0  0  0  0 :   1    1    1    1    1 : 0  0 : 0  0  0  0 : 0  0 : 0 : 0  0  0  0 : 0  0 :  15 :   34%:   2 :15%:
       4 :  0  0 : 0  0  0  0 :  0   1  0    1 : 0    1    1    1    1    1    1 : 0  0 : 0  0  0  0  0 :   1    1    1    0    1 : 0  0 : 0  0  0  0 : 0  0 : 0 : 0  0  0  0 : 0  0 :  12 :   27%:   0 : 0%:
       5 :  0  0 : 0  0  0  0 :  0   1  1    1 : 1    1    1    1    1    1    1 : 0  0 : 1  0  0  0  0 :   1    1    1    1    1 : 0  0 : 0  0  0  0 : 0  0 : 0 : 0  0  0  0 : 0  0 :  16 :   36%:   2 :15%:
          ------------------------------------------------------------------------------------------------------------------------------------------------------------:
  # OF    :
 STUDENTS :
 CORRECT  :  0  0 : 0  0  1  1 :  1   5  4    5 : 3    5    5    5    5    5    5 : 0  0 : 2  0  0  0  1 :   5    5    5    4    5 : 0  0 : 0  0  0  0 : 0  0 : 0 : 0  0  0  0 : 0  0 :  77 :
          ------:-----------:--------------:--------------------------:------:--------------:------------------:------:------------:------:---:------------:------:------:
% CORRECT :  0% 0%: 0% 0%20%20%: 20%100%80%100%:60%100%100%100%100%100%100%: 0% 0%:40% 0% 0% 0%20%:100%100%100% 80%100%: 0% 0%: 0% 0% 0% 0%: 0% 0%: 0%: 0% 0% 0% 0%: 0% 0%:  35%:
          :------:-----------:--------------:--------------------------:------:--------------:------------------:------:------------:------:---:------------:------:------:
```

```
POSTTEST  Small Group
                                                                                                                                        :       :     :    :
                                                                                                 2.1      2.2          2.3  2.4     3.1        3.2
OBJECTIVE :  1.1  :    1.2      :     1.3       :               1.4              1.5        1.6               1.7          -------- -------------- -------- ---- ------------- --------  RAW  :   %   :  #  : %  :
----------:-------:-------------:---------------:-----------------------------:---------:---------------------------------------------------------------------------------------------------------------------
TEST ITEM :  1   2 :  3   4   5   6 :  7   8   9  10 : 11  12  13  14  15  16  17 : 18  19 : 20  21  22  23  24 : 25  26  27  28  29 : 30  31 : 32  33  34  35 : 36  37 : 38 : 39  40  41  42 : 43  44 :SCORE :CORRECT: OBJ :OBJ :
----------:-------:-------------:---------------:-----------------------------:---------:---------------------:---------------------:-------:----------------:-------:----:----------------:-------:------:-------:-----:----:
 STUDENT  :
       1 :  1   0 :  1   1   1   1 :  1   1   1   1 :  1   1   1   1   1   1   1 :  1   1 :  1   1   1   1   1 :  1   1   1   1   1 :  1   1 :  1   1   1   1 :  1   1 :  1 :  1   1   1   1 :  1   1 :  43 :   98%:  12 : 92%:
       2 :  1   1 :  1   1   1   1 :  1   1   1   1 :  1   1   1   1   1   1   1 :  1   1 :  1   1   1   1   1 :  1   1   1   1   1 :  1   1 :  1   1   1   1 :  1   1 :  1 :  1   1   1   1 :  1   1 :  44 :  100%:  13 :100%:
       3 :  1   0 :  1   0   1   1 :  1   1   1   1 :  1   1   1   1   1   1   1 :  1   1 :  1   1   1   1   1 :  1   1   1   1   1 :  1   1 :  1   1   1   1 :  1   0 :  1 :  1   1   1   1 :  1   1 :  41 :   93%:  10 : 77%:
       4 :  1   1 :  1   1   1   1 :  0   1   1   1 :  1   1   1   1   1   1   1 :  1   1 :  1   1   1   1   1 :  1   1   1   1   1 :  1   1 :  1   1   1   1 :  1   0 :  1 :  1   1   1   1 :  1   1 :  42 :   95%:  11 : 85%:
       5 :  1   1 :  1   0   1   1 :  1   1   1   1 :  1   1   1   1   1   1   1 :  1   1 :  1   1   1   1   1 :  1   1   1   1   0 :  1   1 :  1   1   1   1 :  1   1 :  1 :  1   1   1   1 :  1   1 :  42 :
          ---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------:
  # OF    :
 STUDENTS :
 CORRECT  :  5   3 :  5   3   5   5 :  4   5   5   5 :  5   5   5   5   5   5   5 :  5   5 :  5   5   5   5   5 :  5   5   5   5   4 :  5   5 :  5   5   5   5 :  5   3 :  5 :  5   5   5   5 :  5   5 :  212 :
          --------:-------------:---------------:-----------------------------:---------:---------------------:---------------------:-------:----------------:-------:----:----------------:-------:------:
% CORRECT :100% 60%:100% 60%100%100%: 80%100%100%100%:100%100%100%100%100%100%100%:100%100%:100%100%100%100%100%:100%100%100%100% 80%:100%100%:100%100%100%100%:100% 60%:100%:100%100%100%100%:100%100%:  96%:
          :--------:-------------:---------------:-----------------------------:---------:---------------------:---------------------:-------:----------------:-------:----:----------------:-------:------:
```

APPENDIX M

Training Session Test Results

Entry Behavior Test

TEST ITEM	1.1	1.2	2	3.1	3.2	3.3	3.4	4	5	6	7	8	9	10.1	10.2	11	12	13	14	15	RAW SCORE	% CORRECT
STUDENT																						
1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	0	1	1	1	1	0	16	80%
2	1	1	1	1	0	1	0	1	1	0	0	0	1	1	1	1	0	0	1	0	12	60%
3	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	18	90%
4	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	19	95%
5	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	0	1	1	1	1	18	90%
6	1	1	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	18	90%
7	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	19	95%
8	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0	1	1	1	1	1	18	90%
9	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	19	95%
10	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	0	18	90%
11	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	19	95%
12	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	19	95%
13	1	1	1	1	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	18	90%
14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	20	100%
15	1	1	1	1	1	1	0	1	1	1	0	1	1	1	1	1	1	1	1	1	18	90%
16	1	1	1	1	0	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	18	90%
17	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	19	95%
18	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	18	90%
19	1	1	0	1	1	1	0	1	1	1	1	0	1	1	1	1	1	1	1	1	17	85%
20	1	1	1	1	0	1	0	1	1	1	1	1	1	1	1	1	1	1	0	1	17	85%
21	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	19	95%
# OF STUDENTS CORRECT	21	21	19	21	15	20	12	21	21	18	18	16	19	20	17	20	20	20	20	18	377	
% CORRECT	100%	100%	90%	100%	71%	95%	57%	100%	100%	86%	86%	76%	90%	95%	81%	95%	95%	95%	95%	86%	85%	

PRETEST

OBJECTIVE	1.1		1.2				1.3				1.4							1.5		1.6					1.7					2.1		2.2				2.3		2.4	3.1				3.2		RAW	%	#	%
TEST ITEM	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	SCORE	CORRECT	OBJ	OBJ
STUDENT																																																
1	0	0	0	0	0	0	0	1	1	1	0	1	1	1	1	1	1	0	0	1	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	36%	1	8%
2	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	18%	0	0%
3	0	0	0	0	1	1	0	1	1	1	0	1	1	0	1	1	1	1	1	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	18	41%	2	15%
4	0	0	0	0	0	0	0	1	1	1	0	1	1	1	1	1	1	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	32%	1	8%
5	0	0	0	0	1	0	0	1	1	1	0	1	1	1	1	1	1	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	34%	1	8%
6	0	0	0	0	0	0	1	1	0	1	1	1	1	1	1	1	1	0	0	1	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	39%	2	15%
7	0	0	0	0	0	0	0	1	1	1	0	1	1	1	1	1	1	0	0	1	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	34%	1	8%
8	0	0	0	0	0	0	0	1	1	1	0	1	1	0	1	1	1	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	30%	1	8%
9	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	41%	3	23%
10	0	0	0	0	0	0	0	1	1	1	0	1	1	1	1	1	1	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	27%	0	0%
11	0	0	0	0	0	0	0	1	1	1	0	1	1	1	1	1	1	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	32%	1	8%
12	0	0	0	0	0	0	0	1	1	1	0	1	1	1	1	1	1	0	0	1	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	32%	0	0%
13	1	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	28	64%	5	38%
14	0	0	0	0	0	0	0	1	1	1	0	1	1	1	1	1	1	0	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	34%	1	8%
15	0	0	0	0	0	0	0	1	1	1	0	0	0	1	1	1	1	1	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	30%	1	8%
16	0	0	0	0	1	0	0	1	1	1	0	1	1	1	1	1	1	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	32%	0	0%
17	0	0	0	0	0	0	0	0	1	1	0	1	1	1	1	1	1	0	0	1	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	34%	1	8%
18	0	0	0	0	0	0	0	1	1	1	0	1	1	1	1	1	1	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	32%	1	8%
19	0	0	0	0	0	0	0	1	1	1	0	1	1	1	1	1	1	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	32%	1	8%
20	0	0	0	0	1	0	1	1	1	1	0	1	1	0	1	1	1	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	30%	1	8%
21	0	0	0	0	0	0	0	1	1	1	0	1	1	1	1	1	1	0	0	1	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	36%	1	8%
# OF STUDENTS CORRECT	1	0	1	0	6	3	4	19	19	20	3	20	20	18	21	21	21	3	2	7	1	1	1	6	21	18	20	21	16	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	316			
% CORRECT	5%	0%	5%	0%	29%	14%	19%	90%	90%	95%	14%	95%	95%	86%	100%	100%	100%	14%	10%	33%	5%	5%	5%	29%	100%	86%	95%	100%	76%	0%	0%	0%	0%	0%	0%	0%	10%	0%	0%	0%	0%	0%	0%	0%	34%			

POSTTEST

OBJECTIVE	1.1		1.2				1.3				1.4							1.5		1.6					1.7					2.1		2.2				2.3		2.4	3.1				3.2					
TEST ITEM	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	RAW SCORE	% CORRECT	# OBJ	% OBJ
STUDENT																																																
1	1	1	0	1	1	1	1	1	1	1	0	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	1	1	1	1	1	1	1	39	89%	8	62%
2	1	0	1	0	1	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22	50%	2	15%
3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	44	100%	13	100%
4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	44	100%	13	100%
5	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	43	98%	12	92%
6	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	43	98%	12	92%
7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	44	100%	13	100%
8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	0	1	1	1	1	1	1	1	42	95%	11	85%
9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	44	100%	13	100%
10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	43	98%	12	92%
11	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	44	100%	13	100%
12	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	43	98%	12	92%
13	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	44	100%	13	100%
14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	43	98%	12	92%
15	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	42	95%	11	85%
16	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	0	1	1	1	1	40	91%	10	77%
17	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	42	95%	11	85%
18	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	42	95%	11	85%
19	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	42	95%	11	85%
20	1	1	1	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	42	95%	11	85%
21	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	42	95%	11	85%
# OF STUDENTS CORRECT	20	16	20	19	21	19	19	21	19	21	19	21	21	21	21	21	21	19	19	21	19	20	20	21	21	21	21	21	20	20	20	20	20	19	19	20	14	20	20	19	20	20	20	20	874			
% CORRECT	95%	76%	95%	90%	100%	90%	90%	100%	90%	100%	90%	100%	100%	100%	100%	100%	100%	90%	90%	100%	90%	95%	95%	100%	100%	100%	100%	100%	95%	95%	95%	95%	95%	90%	90%	95%	67%	95%	95%	90%	95%	95%	95%	95%	95%			

ATTITUDE QUESTIONNAIRE

ITEM	1	2	3	4	5	6	7	8	9	10	RAW SCORE	RATING
STUDENT												
1	7	6	6	6	6	6	4	5	5	5	56	80%
2	5	4	5	7	5	4	3	2	3	3	41	59%
3	7	6	6	7	7	7	5	7	7	7	66	94%
4	6	6	6	7	5	6	4	7	6	7	60	86%
5	6	5	5	6	6	6	5	6	6	6	57	81%
6	6	7	7	7	7	7	5	7	7	7	67	96%
7	7	6	6	7	6	7	7	6	6	6	64	91%
8	7	6	7	7	6	7	6	7	7	7	67	96%
9	7	5	6	6	7	6	5	7	7	7	63	90%
10	7	6	6	6	7	6	4	6	6	6	60	86%
11	6	7	7	7	7	7	5	7	7	7	67	96%
12	7	6	7	7	7	7	6	7	7	7	68	97%
13	7	7	7	7	7	7	7	7	7	7	70	100%
14	7	7	7	7	6	7	5	6	7	6	65	93%
15	7	6	7	5	6	7	4	7	7	6	62	89%
16	7	5	6	6	6	6	5	6	7	7	61	87%
17	6	6	5	6	6	7	6	6	6	7	61	87%
18	7	7	7	7	7	7	7	7	7	7	70	100%
19	7	7	6	7	7	7	7	7	7	7	69	99%
20	6	6	7	7	7	6	6	6	6	7	64	91%
21	6	7	7	7	6	7	5	7	5	6	63	90%
TOTAL SCORE	138	128	133	139	134	137	111	133	133	135	1321	
PERCENT	94%	87%	90%	95%	91%	93%	76%	90%	90%	92%	90%	

BIBLIOGRAPHY

BOOKS

Anderson, R. (1983). Selecting and developing media for instruction, second edition. New York: Van Nostrand Rheinhold Company.

Bloom, B. (ed.) (1956). Taxonomy of educational objectives: the cognitive domain. New York: David McKay Company.

Bloom, B. (1956). In Laird, D. Approaches to training and development, second edition. Reading, MA: Addison-Wesley Publishing Company, Inc.

Dick, W., and Carey, L. (1985). The systematic design of instruction, second edition. Illinois: Scott, Foresman and Company.

Gagne, R. M. (1985). The conditions of learning, fourth edition. New York: Hold, Rinehart and Winston, Inc.

Kirkpatrick, D. (1987). In Craig, R. (Ed.) Training and development handbook, third edition. Madison, WI: American Society for Training and Development.

Mager, R. (1984). Preparing instructional objectives (revised second edition). Belmont, CA: David S. Lake.

Phillips, J. (1987). Handbook of training evaluation and measurement methods. Houston: Gulf Publishing Company.

PERIODICALS

Beaudin, B. (1987). "Enhancing the transfer of job-related learning from the learning environment to the workplace." Performance and Instruction, 25, pp. 19-21.

Beaver, J. E. (1986). "Building bridges to DISOSS (IBM distributed office support system becoming the standard)," Computer Decisions, Volume 1, pp. 80-84.

Broad, M. L. (1982). "Management actions to support transfer of training," Training and Development Journal, May, pp. 36-40.

Merlo, N. (1988). "Subjective ROI," Training and Development Journal, November, pp. 63-66.

Micossi, A. (1985). "Breaking the send barrier," Computer Decisions," Volume 1, pp. 180-182.

Pallatto, J. (1986). "IBM software helps firms' users communicate," PC Week, Volume 3, pp. 52-54.

Schultz, B. (1989). "Take a letter, Mr. Postman." Datamation, Volume 35, issue n2, pp. 37-41.

UNPUBLISHED MANUSCRIPTS

The office systems services DISOSS user handbook. (1985). Phoenix: unpublished manual prepared by American Express TRS Co., Inc., Office Systems Services development staff.

The office systems services IBM 8100 DOSF manual. (1985). Phoenix: unpublished manual prepared by American Express TRS Company, Inc., Office Systems Services development staff.

TECHNICAL AND RESEARCH REPORTS

Center for Educational Technology. (1976). Interservice procedures for instructional systems development: Executive overview (Contract No: N61339-73-C-0150) Tallahasee, Florida: Florida State University.

International Business Machines Corporation. (1986). Distributed Office Support System/8100 user's reference (fifth edition). (technical journal SH12-5343-4). New York: IBM.

Mastin, P. K. (1986). Technical coordinator's guide to training personal computer workstation end users. Irving, Texas: International Business Machines Corporation.